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THE

LONDON ENCYCLOPÆDIA.

VOL. IV.

BENEDICT TO CADIZ.

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THE
LONDON ENCYCLOPÆDIA,
OR
UNIVERSAL DICTIONARY
OF
SCIENCE, ART, LITERATURE, AND PRACTICAL MECHANICS,

COMPRISING A
POPULAR VIEW OF THE PRESENT STATE OF KNOWLEDGE.

ILLUSTRATED BY
NUMEROUS ENGRAVINGS, A GENERAL ATLAS,
AND APPROPRIATE DIAGRAM.

Sic oportet ad librum, presertim miscellanei generis, legendum accedere lectorem, ut solet ad convivium conviva civilis. Convivator anuitur omnibus satisfacere; et tamen si quid apponitur, quod hujus aut illius palato non respondeat, et hic et ille urbane dissimulant, et alia fercula probant, ne quid contristent convivorem.
Erasmus.

A reader should sit down to a book, especially of the miscellaneous kind, as a well-behaved visitor does to a banquet. The master of the feast exerts himself to satisfy his guests; but if, after all his care and pains, something should appear on the table that does not suit this or that person's taste, they politely pass it over without notice, and commend other dishes, that they may not distress a kind host.
Translation.

BY THE ORIGINAL EDITOR OF THE ENCYCLOPÆDIA METROPOLITANA,
ASSISTED BY EMINENT PROFESSIONAL AND OTHER GENTLEMEN.

IN TWENTY-TWO VOLUMES.

VOL. IV.

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BELT', *n. s.* Sax. belt, Lat. *baltheus*. A girdle; a cincture in which a sword or some weapon, is commonly hung.

Full many ladies often had assay'd,
About their middles that fair belt to knit.

Spenser.

He cannot buckle his distemper'd cause
Within the belt of rule.

Shakspeare.

Ajax slew himself with the sword given him by Hector, and Hector was dragged about the walls of Troy by the belt given him by Ajax.

South.

Then snatch'd the shining belt, with gold inlaid;
The belt Eurytion's artful hands had made.

Dryden.

BELT, BALTHEUS, a kind of military girdle, commonly of leather, wherewith the sword or other weapons are sustained. Belts are known among the ancient and middle-age writers by divers names, as ζωνη, ζωνα, zona, cingulum, remiculum, rinca or ringa, and baldrellus. The belt was an essential piece of the ancient armour; insomuch that we sometimes find it used to denote the whole armour. In later ages, the belt was given to a person when he was raised to knighthood; whence it has also been used as a badge or mark of the knightly order.

BELT, a disease in sheep, is cured by cutting their tails off, and laying the sore bare; then casting mould on it, and applying tar and goose-grease.

BELT, BELTIS, in ecclesiastical writers of the middle age, signifies a string of beads.

BELT, in surgery, signifies a bandage; thus quicksilver belts are used for the itch; belts for keeping the belly tight, and discharging the water in the operation of tapping, &c.

BELTS, FASCIAE, in astronomy, two zones or girdles surrounding the body of the planet Jupiter. See ASTRONOMY.

BELT, THE GREAT AND LITTLE, two straits of Denmark, connecting the Baltic with the Cattegat. The former runs between the island of Zealand and that of Funen, at the entrance of the Baltic. In 1658 it was so completely frozen over, that Charles Gustavus, king of Sweden, marched across it with a design to take Copenhagen. It varies in depth from five to twenty fathoms, and its greatest width is about twenty miles. The neighbouring shores afford several good and convenient harbours. The chief danger in the navigation arises from the sand banks, and the number of small islands. The passage-boats cross in summer from Nyborg in Funen to Corsoer in Zealand, a distance of fifteen miles, in the course of three or four hours. In the middle of the passage is the small island of Sprogø. Vessels passing this strait pay a toll at Nyborg, where a guard ship is stationed. At Fredericia, where the tolls are levied, it does not

exceed a mile in width, so that the entrance from the Cattegat is completely commanded. In other parts of the strait the water expands in width to an extent of eight or ten miles. The route from Jutland to Copenhagen, by way of Fredericia, though circuitous, is preferred on account of the regularity and security of the conveyance. The shores of the Little Belt are seldom steep or rugged, but contain several sand-banks; and the current from the Baltic to the Cattegat is of considerable strength. The depth varies from four fathoms to twenty-seven. The passage of both Belts is attended with considerable risk for large vessels, which on that account generally pass through the Sound; the Great Belt, however, was much frequented by British ships during the stoppage of the Sound, from 1807 to 1814, in consequence of our hostilities with Denmark.

The Lesser lies to the west of the Great Belt, between the island of Funen and the coast of Jutland. It is not three miles in average breadth, and very crooked.

BELTAN, or BELTEIN, a superstitious custom of the Highlands of Scotland. 'It is,' says Mr. Pennant, in his Tour, 'a kind of rural sacrifice performed by the herdsmen of every village on the first of May. They cut a square trench in the ground, leaving a turf in the middle: on that they make a fire of wood, on which they dress a large caudle of eggs, butter, oatmeal, and milk; and bring, besides the ingredients of the caudle, plenty of beer and whisky; for each of the company must contribute something. The rites begin with spilling some of the caudle on the ground, by way of libation: on that, every one takes a cake of oatmeal, upon which are raised nine square knobs, each dedicated to some particular being, the supposed preserver of their flocks and herds, or to some particular animal, the real destroyer of them: each person then turns his face to the fire, breaks off a knob, and flinging it over his shoulder, says, This I give to thee, preserve thou my horses; this to thee, preserve thou my sheep; and so on. After that they use the same ceremony to the noxious animals: This I give to thee, O fox! spare thou my lambs: this to thee, O hooded crow! this to thee, O eagle! When the ceremony is over, they dine on the caudle; and after the feast is finished, what is left is hid by two persons deputed for that purpose; but on the next Sunday they re-assemble and finish the reliques of the first entertainment.' Dr. James Robertson, minister of Callander, gives a very different, and seemingly more credible account of this festival, in Sir John Sinclair's Stat. Acc. Vol. xi. 620. 'Upon the first day of May,' says the Dr., 'which is called

Beltan, or Baltein day, all the boys in a township or hamlet, meet in the moors. They cut a table in the green sod, of a round figure, by casting a trench in the ground, of such circumference as to hold the whole company.' After dressing the caudle as above-mentioned—'They knead a cake of oatmeal, which is toasted at the embers against a stone. After the custard is eaten up, they divide the cake into so many portions, as similar as possible to one another in size and shape, as there are persons in the company. They daub one of these portions all over with charcoal, until it be perfectly black. They put all the bits of the cake into a bonnet. Every one, blindfold, draws out a portion. He who holds the bonnet, is entitled to the last bit. Whoever draws the black bit, is the devoted person who is to be sacrificed to Baal, whose favor they mean to implore, in rendering the year productive of the sustenance of man and beast. There is little doubt of those inhuman sacrifices having been once offered in this country, as well as in the east, although they now pass from the act of sacrificing, and only compel the devoted person to leap three times through the flames; with which the ceremonies of this festival are closed.' The Dr. in a note traces the origin of this and other superstitions from our ancient Druidism. 'Bal-tein signifies the fire of Baal. Baal, or Ball, is the only word in Gaelic for a globe. This festival was probably in honor of the sun, whose return, in his apparent annual course, they celebrated, on account of his having such a visible influence, by his genial warmth, on the productions of the earth. That the Caledonians paid a superstitious respect to the sun, as was the practice among many other nations, is evident, not only by the sacrifice at Baltein, but upon many other occasions. When a Highlander goes to bathe, or to drink waters out of a consecrated fountain, he must always approach by going round the place, from east to west on the south side, in imitation of the apparent diurnal motion of the sun. When the dead are laid in the earth, the grave is approached by going round in the same manner. The bride is conducted to her future spouse, in the presence of the minister, and the glass goes round a company, in the course of the sun. This is called, in Gaelic, going round the right, or the lucky way. The opposite course is the wrong, or the unlucky way.'

BELTESHAZZAR, the name given to the prophet Daniel, by Nebuchadnezzar's chief eunuch.

BELTURBET, a market town of Ireland, in the county of Cavan, situated on the river Erne, eight miles from Cavan, and sixty from Dublin. Before the union, it sent two members to the Irish parliament. All articles offered for sale in the market pay toll in kind. They principally consist of oatmeal, potatoes, and yarn. Brewing and distilling are also carried on here. It appears to have been once a military station; there being some ancient fortifications still visible.

BELTZ, or BELZO, a province of Red Russia in Poland, bounded by Leopold on the south, by Chelm on the north, Little Poland on the east, and Volhynia on the west.

BELTZ, or BELZO, a town of Poland, and capital of the province, seated on the confines of Upper Volhynia, among marshes, thirty-five miles north of Lemberg.

BELVEDERE, a town of European Turkey, on the west coast of the Morea, and standing on the site of the ancient Elis. It is poorly built, but receives the name of Belvedere from its fine situation. It is the capital of a province which comprises the Messenia and Elis of the ancients, and is one of the most beautiful and fertile in Greece. The town is thirty-six miles south of Patras, and sixty-five west of Corinth. Long. $21^{\circ} 30' E.$, lat. $37^{\circ} 59' N.$

BELVEDERE, in the Italian architecture, &c. denotes either a pavilion on the top of a building, or an artificial eminence in a garden; the word literally signifying a fine prospect.

BELVIDERE, in botany. See CHENOPODIUM.

BELVIS, a small town of Spain, in Estremadura, with a castle, seated between two mountains.

BELUGA, in zoology, a name of the delphinus albicans; this fish occasionally containing a morbid concretion called the beluga stone. Its figure is globular or oval; it is of a yellowish white color, smooth polished surface, and between the size of a pigeon's and goose's egg. It is ponderous, and requires a strong blow to break it. When scraped and sprinkled on hot iron it emits a faint urinous smell, and calcines into a light insipid grayish earth. The Asiatics of the Volga give it in doses of from ten grains to a dram, in calculous disorders; and they believe also that it facilitates childbirth.

BELULCUM, a chirurgial instrument for extracting darts, arrows, &c. from wounds.

BELUNUM, in ancient geography, a town of Rhatia, above Feltria, in the territory of the Veneti; now called Belluno.

BELUR, a general name given to the Alpine region which divides the southern part of ancient Scythia, or Great Bucharia, from Little Bucharia. It lies in about the 37th degree of north latitude, and the 71st of east longitude.

BELUR TAGH, a range of mountains in central Asia, which runs nearly north and south, about the 71st degree of east longitude. The term, in the Mongul language, implies 'the dark or cloudy mountains.' They belong to a part of the ancient Imaus, and are perpetually covered with snow.

BELUS, in ancient geography, a small river of Galilee, at the distance of two stadia from Ptolemais, running from the foot of Mount Carmel out of the lake Cendevia. Near this place, according to Josephus, was a round hollow or valley, where was a kind of sand fit for making glass; which, though exported in great quantities, was found to be inexhaustible. Strabo says, the whole of the coast from Tyre to Ptolemais has a sand fit for making glass; but that the sand of the rivulet Belus and its neighbourhood is a better sort; and here, according to Pliny, the making of glass was first discovered.

BELUS. See BEL.

BELUSSA, a market town of Hungary, in the county of Trentschin, near which are warm sulphur springs.

BELWETHER, *n. s.* From bell and wether. A sheep which leads the flock with a bell on his neck.

The fox will serve my sheep to gather,
And drive to follow after their *belwether*.

Spenser.

To offer to get your living by the copulation of cattle; to be a bawd to a *belwether*. *Shakspeare.*

The flock of sheep and *belwether* thinking to break into another's pasture, and being to pass over another bridge, jostled till both fell into the ditch. *Howel.*

BELZONI (John Baptist), a modern traveller, celebrated for his discoveries in Egyptian antiquities. He was, according to his own preface to his *Travels*, born at Padua, of a Roman family, and his original destination was to a monastic life. The disturbed state of his country, however, in consequence of the French invasion in 1800, induced him to seek an asylum in England, whither he repaired in 1803. Here he married, and continued to reside nine years. Being considerably more than six feet high, robust and well proportioned, he at one time exhibited feats of strength at Astley's amphitheatre; but subsequently devoted himself to the grand object of exploring the north-eastern shores of Africa. Taking Mrs. Belzoni with him he left England in 1815, and passed by Portugal and Spain to Malta and Egypt, where he was much encouraged and assisted in his researches by Mr. Salt, the British consul. He returned to England in 1820, to lay the results before the public, and published a *Narrative of the Operations and recent Discoveries within the Pyramids, Temples, Tombs, and Excavations, in Egypt and Nubia; and of a Journey to the coast of the Red Sea, in search of the ancient Berenice; and another to the Oasis of Jupiter Ammon*, 4to; together with forty-four illustrative plates in folio. In 1821 Mr. Belzoni exhibited, at the Egyptian Hall in Piccadilly, a model of the tomb which he had explored near Thebes; fac-similes of the paintings on the walls of one or two of the sepulchral apartments, with other Egyptian curiosities. This exhibition attracted much public attention, and probably proved very profitable; but in Paris the following season it did not meet with equal success. Our traveller afterwards undertook an expedition of discovery to the central parts of Africa, and reached the mouth of Benue river on the coast of Guinea, in the autumn of 1823. On the night of the 24th of November he set off for Gato with a gentleman of some influence with the king of Benue. But having reached Benue he was seized with a disease which speedily terminated in death, and was interred at Gato; the following monumental inscription being placed over his grave:

Here lie the remains of

J. B. BELZONI;

Who was attacked with dysentery at Benue,

(On his way to Houssa and Timbuctoo,)

On the 26th of November, and died at this place,

December 3, 1823.

BEMA, *βημα*, denotes a step or pace. The bema made a kind of itinerary measure among

the Greeks, the length of which was equivalent to one cubit and two-thirds, or to ten palms. Whence also the term *βηματιζειν*, *bematizein*, to measure a road.

BEMA, in ecclesiastical writers, denotes 1. The altar and sanctuary in the ancient churches. In this sense it means the third or innermost part of the church, answering to our chancel. 2. The bishop's chair or throne, in the sanctuary, was called bema from the steps by which it was ascended. 3. The reader's desk. This in the Greek church was called *βημα ῥησων*, in the Latin church ambo.

BEMA was particularly used by the Manichees for their altar, which was in a different place from that of the Catholics. Bema was also a denomination given by this sect to the anniversary of the day on which Manes was killed, which with them was a solemn feast and day of rejoicing. One of the chief ceremonies of the feast consisted in setting out and adorning their bema or altar with great magnificence.

BE'MAD. Be and mad. See **MAD.**

BE'MARTYR. Be and martyr. See **MARTYR.**

BE'MASK. Be and mask. See **MASK.**

BE'MAUL. Be and maul. See **MAUL.**

BE'MAZE. Be and maze. See **MAZE.**

EMBER, a chain of mountains in Asia, which divide India from Tartary.

BEMBO (Flavio), a native of Amalfi, in Naples, the inventor of that most useful instrument in navigation, the mariner's compass, flourished about the beginning of the fourteenth century.

BEMBO (Peter), a noble Venetian, secretary to Leo X. and afterwards cardinal, was one of the best writers of the sixteenth century. He was a good poet, both in Italian and Latin; but he is justly censured for the looseness and immodesty of some of his poems. He published also *A History of Venice*; *Letters*; and a book in praise of the Duke and Duchess of Urbino. He died in 1547, aged seventy-two.

BE'METE. Be and mete. See **METE.**

BEMETRE, in ornithology, a name by which the Portuguese in the Brasils call a greenish black bird of the starling kind, common there, and more generally known by its Brazilian name, *pitanguacu*.

BEMILUCIUS, in mythology, a surname of Jupiter, represented young and beardless.

BE'MINGLE. Be and mingle. See **MINGLE.**

BE'MIRE. Be and mire. See **MIRE.**

BEMIST. Be and mist. See **MIST.**

BEMOAN, } Be and moan. See **MOAN.**

BEMOANING. }

BEMOCK. Be and mock. See **MOCK.**

BEMOIL. Be and moiL. See **MOIL.**

BEMONSTER. Be and monster. See **MONSTER.**

BEMOURN. Bi or be and mourn. Goth. *mauran*; Ang.-Sax. *murnan*, to mourn, to grieve for, to lament.

BEMUFFLED. Be and muffle; muffle the diminutive of muffle. See **MUFF.**

BEMUSE. Be and muse. See **MUSE.**

BEN, in botany, the oily acorn, or ben-nut; a whitish nut, the size of a small filbert and of a roundish triangular shape, including a kernel of

the same figure, covered with a white skin. It is the fruit of the hyperanthera moringa, a native of the East Indies. These nuts, on expression, yield one-fourth of their weight of a yellow insipid oil, which does not grow rancid with long keeping. It is impregnated with the odor of roses, jessamine, and other flowers, by stratifying them with cotton dipped in the oil, and repeating the process with fresh flowers, until the oil becomes sufficiently odorous; after which, it is squeezed out from the cotton in a press. In this manner the celebrated huile antique de la rose, or otto of roses, is prepared.

BEN-ABOURD, or **BENAVOURD**, the Table hill, a mountain of Scotland, between the shires of Aberdeen and Inverness. It is about three miles long, and nearly flat at the top, presenting a huge barren mass of rock, rising to the height of 3940 feet above the level of the sea. A few topazes and beryls are sometimes found there.

BEN LEDI, a mountain in the county of Perth, in Scotland, rising 3009 feet above the level of the sea; on the summit is a small lake.

BEN-LOMOND, a mountain in the county of Stirling, in Scotland. It rises conically from Lochlomond, above the level of which it towers 3240 feet, and above that of the sea 3262. It is chiefly composed of granite and masses of quartz. It is entirely the property of the duke of Montrose.

BEN MACDUIE, a mountain on the western confines of the county of Aberdeen, in Scotland, the second highest in Britain: It is 4300 feet in height.

BEN NEVIS, a mountain in the county of Dumbarton, in Scotland, rising 4370 feet above the level of the sea. It is the highest in Britain. It is chiefly composed of porphyry and red granite, and it contains a vein of lead ore richly impregnated with silver.

BENA, or **BENE**, a town of Piedmont, in the district of Mondovi, on the road from Finale to Turin, from which it is about twenty-eight miles distant. It is a fortified place, defended by a castle; and contains nearly 5000 inhabitants. It was taken by the French in April, 1796.

BENACO, a department of the late Italian republic, so named from the Benacus, comprehending part of the ci-devant Venetian territory of Verona, and the whole of the late territory of Sado, on the lake of Garda. It is now a part of the Lombardo-Venetian kingdom. It was eighty Italian miles long and fifteen broad, and being partly level, partly mountainous, exhibits one of the most charming spots in Italy. It abounds in corn, wine, oil, silk, fruits, lemons, oranges, iron, lead, copper, marble, granite, &c. It contains forty-two parishes, 150 villages, one large, and several small towns; and sent nine deputies to the two councils of the republic. Its population in October, 1797, was 150,895. Desenzano was the capital.

BENÆ LAPIS, in the natural history of the ancients, the name given by the earliest writers to that fossil body, afterwards called thracius lapis.

BENAIHAH, בְּנֵי־הַיָּד, i. e. the Lord's building, the son of Jehoidah, one of David's heroes, and captain of his guards. Having adhered to Solo-

mon's interest, in opposition to Adonijah, he was appointed general instead of Joab. He appears also to have been appointed public executioner, an office, it would seem, not held dishonorable in those days; we find him ordered to put to death Joab and Adonijah. His personal prowess, in killing the lion, the Egyptian, and the two Moabish champions, is recorded in 2 Sam. xxiii. 20.

BENARES. See **BANARES**.

BENAVENTO, or **BENAVENTE**, a town of Spain, in Leon, with the title of duchy. It is seated on the river Ezla, forty miles south of Leon, and has a strong castle; but though it contains nine parishes, an abbey, two convents, three hospitals, and other public establishments, the population does not exceed 3000. The churches are old, but well built, and the palace of the dukes is a noble and very ancient structure. Not far from the town is a famous monastery of Hieronymites. It is twenty miles north of Zamora.

BENAVIDIO (Marc), a lawyer, born at Padua in 1489, and died in 1582. His principal works are, 1. *Dialogus de Concilio*, 4to. Venet. 1541. 2. *Epitome Illustrium Jurisconsultorum*, 8vo. Patav. 1553; printed afterwards in Fichard's *Lives of Lawyers*, Patav. 1665; and in Hoffman's edition of *Pancirollus*, 4to. Leips. 1721. 3. *Illustrium Jurisconsultorum Imagines*, fol. Rom. 1566; Venet. 1657. 4. *Observationes Legales*, 8vo. Venet. 1745. 5. *Polymathiæ Libri Duodecim*. Venet. 1558. &c.

BENBECULA, Beau-vealla, Gael., a small island on the west coast of Scotland, belonging to the parish of South Uist, from which it is separated by a narrow channel, nearly dry at low water. It is a low island, about nine miles in length, and nearly the same in breadth. The soil is sandy, and unproductive. Great quantities of sea-weed are thrown annually upon the coast, from which the inhabitants make kelp. There are the remains of a large Danish tower upon it, said to contain the ashes of the daughter of a Danish chief. It is situated between the islands of North and South Uist. Long. 8° 10' W., lat. 57° 26' N.

BENBOW (John), an English admiral, born about 1650. He was brought up to the sea, in the merchant service, and in 1680 commanded a ship in the Mediterranean trade, with which he beat off a Sallee rover. His gallantry being reported to Charles II. of Spain, he invited the captain to court, and gave him a letter of recommendation to king James, from whom he received a commission in the navy. He was afterwards sent to the West Indies by king William, where he relieved the British colonies; and when he returned home he was greatly honored, though the house of commons severely censured those who had sent out the squadron. He was despatched a second time to that quarter; and, not long after his arrival, fell in with the French admiral, Du Casse, near St. Martha, on the Spanish coast. A skirmishing action commenced, and continued three or four days; but on the last, the other ships having fallen a-stern, left the admiral alone engaged with the French. In this situation, though a chain-shot had shat-

tered his leg, he would not be removed from the quarter deck, but continued fighting till the morning, when the French sheered off. The admiral made signal for his ships to follow, but his orders were not attended to; and he was thus obliged to return to Jamaica, where he caused the officers who had behaved so basely to be tried by a court-martial, and the most culpable suffered as they deserved. The heroic tar did not long survive this disappointment: it aggravated the effects of his wound, and he died on the 4th Nov. 1702.

BENCH, *v. & n.* } Sax. *benc*; Fr. *banc*; a
BENCHER. } mound, heap, any eminent
or rising place. See BANK. Any thing elevated
as a seat. Grown to mean a seat of justice, where
judges sit. It is also used to designate the per-
sons seated on a bench for the purpose of admin-
istering justice.

Those gentlemen of the inns of court are called *benchers*, who have been readers; they being admitted to plead within the bar are also called inner barristers. The *benchers* being the seniors of the house, are intrusted with its government and direction, and out of them is a treasurer yearly chosen.

Blount. *Chamber.*

And in a little herber that I have,
That *benched* was on turves fresh igrave,
I bad men shouliden me my couche make.

Chaucer.

The seats and *benches* shone of ivory,
An hundred nymphs sat side by side about.

Spenser.

His cupbearer, whom I from meaner form
Have *benched*, and rear'd to worship. *Shakspeare.*
To pluck down justice from your awful bench;
To trip the course of law. *Id.*

Cyriac, whose grandsire on the royal bench
Of British Themis, with no mean applause,
Pronounced, and in his volumes taught our laws,
Which others at their bar so often wrench.

Milton.

All Rome is pleased when Statius will rehearse,
And longing crowds expect the promised verse;
His lofty numbers with so great a gust
They hear, and swallow with such eager lust:
But while the common suffrage crowned his cause,
And broke the *benches* with their loud applause,
His muse had starved, had not a piece unread,
And by a player bought, supplied her bread.

Dryden.

Fools to popular praise aspire
Of public speeches, which worse fools admire;
While from both *benches*, with redoubled sounds,
The' applause of lords and commoners abounds.

Id.

'Twas *benched* with turf, and goodly to be seen,
The thick young grass arose in fresher green.

I was taking a walk in the gardens of Lincoln's
Inn; a favour that is indulged me by several
benchers, who are grown old with me. *Tatler.*

BENCH, or BANC, in law. See BANK.

BENCH, AMICABLE. See AMICABLE BENCHES.

BENCH, FREE, signifies that estate in copy-
hold lands which the wife, being espoused a vir-
gin, has, after the decease of her husband, for
her dower, according to the custom of the manor.
As to this free bench, manors have various cus-
toms; and in those of East and West Enbourne,
in the county of Berks, and other parts of
England, there is a custom alluded to in the

Spectator, 614, 623, that when a copyhold
tenant dies, the widow shall have her free bench
in all the deceased husband's lands, whilst she
lives single and chaste; but if she is guilty of
incontinency, she shall forfeit her estate; never-
theless, upon her coming into the court of the
manor, riding on a black ram, and having his
tail in her hand, and at the same time repeating
a form of words prescribed, the steward is obliged,
by the custom of the manor, to re-admit her to
her free bench.

BENCH, KING's, a court in which the king was
formerly accustomed to sit in person, on which
account it was moved with the king's household.
This was originally the only court in Westmin-
ster-hall, and from this it is thought, that the
courts of common pleas and exchequer were de-
rived. As the king in person is still presumed
in law to sit in this court, though only repre-
sented by his judges, it is said to have supreme
authority; and the proceedings in it are sup-
posed to be *coram nobis*, that is, before the king.
This court consists of a lord chief justice and
three other justices or judges, who are invested
with a sovereign jurisdiction over all matters
whether of a criminal or public nature. All
crimes against the public good, though they do
not injure any particular person, are under the
cognizance of this court; and no private subject
can suffer any unlawful violence or injury against
his person, liberty, or possessions, but a proper
remedy is afforded him here; not only for satisfac-
tion of damages sustained, but for the punishment
of the offender; and wherever this court meets with
an offence contrary to the first principles of ju-
stice, it may punish it. It frequently proceeds
on indictments found before other courts, and
removed by *certiorari* into this. Persons ille-
gally committed to prison, though by the king
and council, or either of the houses of parliament,
may be bailed in it; and in some cases even
upon legal commitments. Writs of mandamus
are issued by this court, for the restoring of
officers in corporations, &c. unjustly turned out,
and freemen wrongfully disfranchised. The
court of King's Bench, is now divided into a
crown and plea side; the one determining crimi-
nal, and the other civil causes. On the crown
side, or crown office, it takes cognizance of all
criminal causes, from high treason down to the
most trivial misdemeanour or breach of the peace.
Into this court also indictments from all inferior
courts may be removed by writ of *certiorari*;
and tried either at bar, or at *nisi prius*, by a jury
of the county out of which the indictment is
brought. The judges of this court are the su-
preme coroners of the kingdom; and the court
itself is the principal court of criminal jurisdic-
tion known to the laws of England. For which
reason, by the coming of the court of King's
Bench into any county (as it was removed to
Oxford on account of the sickness in 1665), all
former commissions of oyer and terminer, and
general gaol-delivery, are at once absorbed and
determined *ipso facto*. Into the court of King's
Bench has reverted all that was good and salu-
tary of the star-chamber. On the plea side, this
court determines all personal actions commenced
by bill or writ; as actions of debt, upon the

case, detain, trover, ejectment, trespass, waste, &c. against any person in the custody of the marshal of the court, as every person sued here is supposed to be by law.

BENCOOLEN, **BENCAULU'**, or **FORT MARLBOROUGH**. The chief establishment of the East India Company, on the Island of Sumatra, on the south-west coast. Lat. 3° 50' S., long. 102° 3' E.

The lands for this settlement were taken possession of, by treaty with the natives, so far back as 1685; and in 1698 this settlement had already cost the company £200,000. It was at this time very unhealthy. The foundations of Fort Marlborough were laid in 1714; but, in 1719, the settlers were expelled by the natives who, however, being more alarmed at the Dutch in the absence of the English, soon permitted the latter to resettle.

In 1760 the French, under Comte d'Estaing, destroyed the English settlements here. But they were quickly re-established; and three years after Fort Marlborough, which had hitherto been a subordinate of Fort George, or Madras, was formed into an independent presidency. The establishment, however, exceeding the revenue £90,000 per annum, and the settlement having become of little importance as a commercial establishment, since pepper could be more advantageously supplied from Prince of Wales' Island and Malabar; in August, 1801, the directors ordered it to be reduced to a residency, under the government of Bengal. One cargo of pepper of the value of £15,000 is all that is now sent annually from Bencoolen; and in 1810 the woollen goods exported in return, were valued only at £4276. In fact provisions and refreshments of all sorts are scarce and expensive here, and the trade is insignificant. The imports are opium, piece goods, and grain; and the chief exports pepper, other spices, and bullion.

BEN-COWSE, a fortified town of southern Algiers. The walls are of mud, and it is defended by a small garrison, with three or four pieces of cannon. In its vicinity are to be seen the remains of a considerable city, consisting of broken pillars, walls, and cisterns; here too, the inhabitants show the tombs of what they call the seven sleepers, whom they suppose to have been Mussulmans, and to have taken their final sleep here. It is about sixty-three miles south-west of Constantia.

BEND, *v. & n.* } Sax. *bendan*; Fr. *bander*;
BENDER, } as Skinner thinks from Lat.
BENT. } *pandure*. To make crooked;
to crook; to inflect, or incline in a particular direction.

The rainbow compasseth the heavens with a glorious circle, and the hands of the Most High hath *bended* it. *Ecclus.*

It never yet was *bent*, ne *bent* it now
Albe the stroke so strong and puissant were,
That seemed a marble pillour it could bow.

Spenser.

They *bend* their bows, they whirl their slings around:
Heaps of spent arrows fall, and strew the ground:
And helms, and shields, and rattling arms resound.

Dryden.

To that sweet region was our voyage *bent*,
When winds, and every warring element,
Disturb'd our course. *Id.*

Octavius and Mark Antony
Came down upon us with a mighty power,
Bending their expedition toward Philippi. *Shakspeare.*

Why dost thou *bend* thy eyes upon the earth,
And start so often, when thou sitt'st alone? *Id.*

He is within, with two right reverend fathers,
Divinely *bent* to meditation. *Id.*

I'm settled, and *bend* up
Each corporeal agent to this terrible feat. *Id.*
Your gracious eyes upon this labour *bend*.

Fairfax.

Then, with a rushing sound, the' assembly *bend*
Diverse their steps; the rival rout ascend
The royal dome. *Pope.*

Men will not *bend* their wits to examine, whether
things, wherewith they haue been accustomed, be
good or evil. *Hooker.*

When he fell into the gout, he was no longer able
to *bend* his mind or thoughts to any publick business. *Temple.*

As a fowler was *bending* his net, a blackbird asked
him what he was doing? *L'Estrange.*

To incline.
But when to mischief mortals *bend* their will,
How soon they find fit instruments of ill! *Pope.*

To **BEND THE BROW**. To knit the brow; to frown.

Some have been seen to bite their pen, scratch
their head, *bend their brows*, bite their lips, beat the
board, and tear their paper. *Camden.*

BEND, in heraldry, an honorable ordinary formed by diagonal lines drawn from the dexter, or right corner at top, to the sinister base, or left corner at bottom, which is supposed to represent a shoulder belt or scarf, and to show the wearer to be valiant in war. The content of the bend when charged is the third part of the field, but uncharged it contains only the fifth. The bend taken absolutely signifies the dexter-bend, as in fig. 1. Otherwise it is called a bend sinister, as in fig. 2. Bends are composed of either plain or crooked lines; engrailed, wavy, crenelle, flory, &c. as in fig. 4. the bend crenelle.

Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.



The bend has four different diminutives; namely, the bendlet, the garter, the cottice, and the ribbon. In-bend is when a charge is borne sloping from the dexter chief to the sinister base,

after the manner of a bend, as in fig. 3. a wyvern volant in-bend.

BEND EMIR, or **BUND EMEER**, called the Cyrus by ancient geographers, a river of Persia, which flows through the plain of Mendesht, and on entering the districts of Kurjan is divided into numerous artificial channels, for the purpose of irrigation. The portion which is not expended in this way, is received by the lake Baktegan.

BENDER, a town of Bessarabia, in European Turkey, seated on the river Dneister, memorable for being the retreat of Charles XII. after he was defeated by the Russians at the battle of Pultowa, in 1709. In 1770 the Russians, under Panin, took Bender by storm, put the greater number of the inhabitants to the sword, and reduced the town to ashes. It was given back, however, at the peace of Kaynardgi. Prior to this siege, Bender contained 30,000 inhabitants, of whom one-half were soldiers. The Russians got possession of it a second time, on the 15th November, 1789, almost without firing a shot; and, although it was restored at the peace of Jassy, they again made themselves masters of it in the last war, and retained it at the peace of 1812. 100 miles east of Jassy, and 100 west of Oczakov. Long. 29° 36' E., lat. 46° 50' 32" N.

BENDIDIA, in antiquity, *Βενδιδα*, festivals, not unlike the Bacchanalia, celebrated by the Athenians in honor of Diana.

BENDING, in a general sense, the reducing a straight body into a curve, or giving it a crooked form. The bending of timber boards, &c. is effected by means of heat, whereby their fibres are so relaxed that you may bend them into any figure.

BENDING, in the sea-language, the tying two ropes or cables together: thus they say, bend the cable, that is, make it fast to the ring of the anchor; bend the sail, make it fast to the yard.

BENDLETS, in heraldry, one of the diminutives of the bend, which is in size half the breadth of the bend. Bendlets are sometimes borne in an unusual manner, called *enhanced*, i. e. lifted up to a place in which they are not usually borne, as three bendlets, *gules*.



BENDS, in a ship, the same with what is called wails or wales: the outmost timbers of a ship's side, on which men set their feet in climbing up. They are reckoned from the water, and are called first, second, or third bend. They are the chief strength of a ship's sides; and have the beams, knees, and foot-hooks bolted to them.

BENDY, in heraldry, or bendwise; an epithet for a thing that is divided four, six, or more parts drawn sloping like a bend, as in the annexed figure, bendy wavy. The general custom of England is to make an even number; but in other countries this is not regarded.



BENEAPED. A ship is said to be beneaped, when the water does not flow high enough to

bring her off the ground, over a bar, or out of a dock.

BENE'ATH. Sax. *beneoð*; Dut. *benen*. The imperative of to be, compounded with neath, according to Mr. Tooke. Below, lower. Sometimes used in the Bible for the place of future punishment.

And he seide to hem, ye ben of *hynethe*, I am of ahoue: ye ben of this world, I am not of this world.

Wiclif. Jon. cap. viii.

Our country sinks *beneath* the yoke;
It weeps, it bleeds, and each new day a gash
Is added to her wounds. *Shakspeare.*

I destroyed the Amorite before them; I destroyed his fruits from above, and his roots from *beneath*.

Amos.

Any thing that is in heaven above, or that is in the earth *beneath*.

Exodus.

Their woolly fleeces, as the rites required,
He laid *beneath* him, and to rest retired. *Dryden.*
And oft on rocks their tender wings they tear,
And sink *beneath* the burdens which they bear. *Id.*
Ages to come might Ormond's picture know;
And palms for thee *beneath* his laurels grow.

Prior.

We have reason to be persuaded, that there are far more species of creatures above us, than there are *beneath*.

Locke.

He will do nothing that is *beneath* his high station, nor omit doing any thing which becomes it.

Atterbury.

Beneath his feet pale Envy bites her chain,
And snaky Discord whets her sting in vein.

Beaumont.

Thy reliques, Rowe, to this fair urn we trust
And sacred, place by Dryden's awful dust:
Beneath a rude and nameless stone he lies,
To which thy tomb shall guide enquiring eyes.

Pope. Epitaph on Mr. Rowe.

BENEDEK, a market town of Transylvania, in the county of Lower Weissenburg, not far from the borders of Hungary, with Hungarian and Walachian inhabitants, and a Protestant church.

BENEDETTO, (St.) or **BENDITTO**, a considerable town of Italy, in the Mantuan, seated on the Po; famous before the revolution for the richest and finest convent in all Italy. The celebrated countess Mathilda died and was buried in it.

BENEDICT,
BENEDICT'ION,
BENEDICT'IONARY. } Lat. *benedicere, benedictum*. Having mild and salubrious qualities. An old physical term. It is now applied to wishing well or imploring benefits; also for thanks.

It is not a small thing won in physic, if you can make rhubarb, and other medicines that are *benedict*, as strong purges as those that are not without some malignity.

Bacon.

A sovereign shame so bows him; his unkindness,
That stript her from his *benediction*, turn'd her
To foreign casualties, gave her dear rights
To his dog-hearted daughters.

Shakspeare.

From him will raise
A mighty nation; and upon him shower
My *benediction* so, that in his seed,
All nations shall be blest. *Milton.*

Could he less expect
Than glory and *benediction*, that is, thanks? *Id.*

Prosperity is the blessing of the Old Testament; adversity is the blessing of the new; which carrieth the greater *benediction*, and the clearer revelation of God's favour.

Bacon.

Ridley observes, there is not the least mention of any saint whose name corresponds with this, either in the Roman Calendar, the service in Usum Sarum, or in the *benedictionary* of Bishop Athelwold.

Gammer Gurton's Needle, act iv. sc. 1. Note.

Such ingenious and industrious persons are delighted in searching out natural rarities; reflecting upon the Creator of them his due praises and *benedictions*,

Ray.

BENEDICITE, among ecclesiastical writers, an appellation given to the song of the three children in the fiery furnace, on account of its beginning with the word *benedicite*. The use of this song in christian worship is very ancient, it appearing to have been sung in all the churches, as early as St. Chrysostom's time.

BENEDICT, abbot of Peterborough, was educated at Oxford, became a monk in the monastery of Christ Church in Canterbury, and some time after was chosen prior. Though he had been a great admirer of Becket, and wrote a life of him, he was so much esteemed by Henry II. that by the influence of that prince he was elected abbot of Peterborough, A. D. 1177. He assisted at the coronation of Richard I. A. D. 1189; and was advanced to be keeper of the great seal A. D. 1191. But he did not long enjoy this high dignity, as he died A. D. 1193. He also wrote a History of Henry II. and Richard I. from A. D. 1170, to A. D. 1192: which has been much and justly esteemed by our greatest antiquaries, as containing one of the best accounts of the transactions of those times. A beautiful edition of this work was published at Oxford, in two volumes, by Mr. Hearne, A. D. 1735.

BENEDICT (St.) the founder of the order of the Benedictin monks, was born in Italy about A. D. 480. He was sent to Rome when very young, and there received the first part of his education. At fourteen he was removed from thence to Subiaco, about forty miles distant. Here he lived a most ascetic life, and shut himself up in a cavern, where nobody knew any thing of him except St. Romanus, who, we are told, used to descend to him by a rope, and to supply him with provisions. Being afterwards discovered by the monks of a neighbouring monastery, they chose him their abbot. Their manners, however, not agreeing with his, he returned to his solitude; whither many persons followed him, and put themselves under his direction, so that in a short time he built twelve monasteries. In 528, or 529, he retired to mount Cassino, where idolatry was still prevalent, there being a temple of Apollo erected on it. He instructed the people in the adjacent country, and having converted them, broke the image of Apollo, and built two chapels on the mountain. Here he founded a monastery, and instituted the order of his name, which in time became so famous. Here too he composed his *Regula Monachorum*, which Gregory the Great mentions as the most sensible and best written piece of that kind ever published. The time of his death is uncertain,

but is placed between 540 and 550. He was looked upon as the Elisha of his time; and is reported to have wrought a great number of miracles, which are recorded in the second book of the dialogues of St. Gregory.

BENEDICT XIII. (Vincenzo Maria Orsini), was the eldest son of the duke of Gravina, a nobleman of Naples. In 1672 he was raised by family influence to the dignity of cardinal, but it was with difficulty that he could be made to accept of the pontificate. With a view to reform his court he held a provincial synod in the Lateran in 1725, but was defeated by the Jesuits. He also is said to have expressed a wish for the diffusion of scriptural knowledge, and encouraged the distribution of the Bible in modern languages. Another great object with him was, if possible, to unite the four religious communities of Christendom, and he proposed, that four councils should be held in different places, consisting of representatives of the Romish, Greek, Lutheran, and Calvinistic churches. This scheme failed; but the purity of his intention seems undeniable. Benedict lived with the utmost frugality, and has been called more a monk than a pope. His great fault was his implicit confidence in cardinal Coscia, to whom he left the entire management of his government, and who much abused it. He died February 1731, in the sixth year of his pontificate. His works were published in 1728, in three volumes folio, under the title of *Opere di Benedetto XIII.*

BENEDICT XIV. (Pope), Prosper Lambertini of Bologna, was also celebrated for his learning and moderation, which gained him the esteem of all sensible Protestants. He was the patron of learned men and celebrated artists; and an elaborate writer on theological subjects. His works make twelve vols. in folio. He died in 1758.

BENEDICTINS, in church history, an order of monks, who profess to follow the rules of St. Benedict. The Benedictins, being those only that are properly called monks, wear a loose black gown, with large wide sleeves, and a capuche, or cowl, on their heads, ending in a point behind. In the canon law, they are styled black friars, from the color of their habit. The time when this order came into England is well known; for to it the English are said to owe their conversion from idolatry. In 596 Pope Gregory sent hither Augustin, prior of the monastery of St. Andrew at Rome, with several other Benedictin monks. St. Augustin became archbishop of Canterbury; and the Benedictins founded several monasteries in England, as also the metropolitan church of Canterbury, and all the cathedrals that were afterwards erected. Pope John XXII. who died in 1354, after an exact enquiry, found that since the first rise of the order, there had been of it twenty-four popes, near 200 cardinals, 7000 archbishops, 15,000 bishops, 15,000 abbots of renown, above 4000 saints, and upwards of 37,000 monasteries. There have been likewise of this order twenty emperors and ten empresses, forty-seven kings, and above fifty queens, twenty sons of emperors, and forty-eight sons of kings; about 100 princesses, daughters of kings and emperors; besides dukes, marquisses, earls, countesses, &c.

innumerable. The order has produced a vast number of eminent authors and other learned men. Their Rabanus set up the school of Germany. Their Alcuin founded the university of Paris. Their Dionysius Exiguus perfected the ecclesiastical computation. Their Guido invented the scale of music; and their Sylvester the organ. They boast to have produced Anselmus, Ildephonsus, Venerable Bede, &c. There are nuns likewise who follow the order of St. Benedict; among whom those who call themselves mitigated, eat flesh three times a week, on Sundays, Tuesdays, and Thursdays: the others observe the rule of St. Benedict in its rigor, and eat no flesh unless they are sick.

BENEDICTION, in the modern Romish church, is used, in a more particular manner, to denote the sign of the cross made by a bishop, or prelate, as conferring some grace on the people. The custom of receiving benediction by bowing the head before the bishops, is very ancient; and was so universal that emperors themselves did not decline it. Under the name benediction the Hebrews also frequently understand the presents which friends make one to another, in all probability because they are generally attended with blessing, and compliments, both from those who give and those who receive them.

BENEDICTION is also used for an ecclesiastical ceremony, whereby a thing is rendered sacred or venerable. In this sense benediction differs from consecration, as in the latter unction is applied, which is not in the former; thus, the chalice is consecrated, and the pix blessed; as the former, not the latter, is anointed; though, in common usage, these two words are applied promiscuously. The spirit of superstition has introduced into the Romish church benedictions for almost every thing. We read of forms of benedictions for wax candles, for boughs, for ashes, for church vessels, and ornaments; for flags or ensigns, arms, first-fruits, houses, ships, pascal eggs, cilicium, or the hair cloth of penitents, church-yards, &c. In general, these benedictions are performed by aspersions of holy water, signs of the cross, and prayer suitable to the nature of the ceremony. The forms of these benedictions are found in the Roman pontifical, in the Roman missal, in the book of ecclesiastical ceremonies printed in pope Leo X's time, and in the rituals and ceremonies of the different churches, which are found collected in father Martene's work on the Rites and Discipline of the Church.

BENEDICTION, BEATIC, benedictio beatica; is the vaticum given to dying persons. The pope too begins all his bulls with this form: Salutem et apostolicum benedictionem.

BENEDICTION, NUPtIAL, the external ceremony performed by the priest in the office of matrimony. This is also called sacerdotal and matrimonial benediction, by the Greeks *μερολογία* and *μεροτελεια*. The nuptial benediction is not essential to, but the confirmation of, a marriage in the civil law.

BENEDICTIONALIS LIBER, an ancient church book, containing the forms of the divers sorts of benedictions given by bishops, priests, &c.

BENEFACTION, } Lat. *benefacio*. The
BENEFAC'TOR, } act of conferring a bene-
BENEFAC'TRESS. } fit, or the benefit con-
ferred: which is the more usual sense.

Then swell with pride, and must be titled gods,
Great benefactors of mankind, deliverers,
Worshipped with temple, priest, and sacrifice.

Milton.

From that preface he took his hint, though he had
the baseness not to acknowledge his benefactor.

Dryden.

I cannot but look upon the writer as my benefactor,
if he conveys to me an improvement of my under-
standing.

Addison.

Whoever makes ill returns to his benefactor, must
needs be a common enemy to mankind.

Swift.

One part of the benefactions, was the expression of
a generous and grateful mind.

Atterbury.

BENEFICE,

BENEFICED,

BENEF'ICENCE,

BENEF'IT,

BENEFICELESS,

BENEF'ICIAL, n. & adj.

BENEF'ICALLY,

BENEF'ICIALNESS,

BENEF'ICIARY,

BENEF'ICENCY.

Beneficence. Lat.
*benefacio, benefaci-
ens, beneficentia, be-
nefice, beneficium*. In
feudal times benefice
was applied to the
gratuitous donations
of estates; to things
given for the benefit
of the church. Be-

neficence is benevolence, good will, kind wishes
in operation and endeavour.

And of the priest eftsnoons 'gan to enquire,

How to a benefice he might aspire.

Spenser.

Much to himself he thought, but little spoke,

And, undeprived, his benefice forsook.

Dryden.

The duke of Parma was tempted by no less promise,
than to be made a feudatory, or *beneficiary*
king of England, under the seignory in chief of the
pope.

Bacon.

The usual rate between the *beneficed* man and the
religious person, was one moiety of the benefice.

Ayliffe.

A benefice is either said to be a benefice with the
cure of souls, or otherwise. In the first case, if it
be annexed to another benefice, the *beneficiary*
is obliged to serve the parish church in his own proper
person.

Id.

You could not extend your *beneficence* to so many
persons; yet you have lost as few days as Aurelius.

Dryden.

Love and charity extends our *beneficence* to the
miseries of our brethren.

Rogers.

Such a creature could not have his origination from
any less than the most wise and *beneficent* Being, the
great God.

Hale.

But Phœbus, thou, to man *beneficent*,

Delight'st in building cities.

Prior.

Not any thing is made to be *beneficial* to him, but
all things for him, to shew beneficence and grace in
them.

Hooker.

This supposition grants the opinion to conduce to
order in the world, consequently to be very *beneficial*
to mankind.

Tillotson.

The war, which would have been most *beneficial*
to us, and destructive to the enemy, was neglected.

Swift.

Are the present revolutions in circular orbs more
beneficial than the other would be?

Bentley.

BENEFICE, in authors of the middle age, is
used for a fee, sometimes denominated more
peculiarly *beneficium militare*. In this sense,
benefice was an estate in land, at first granted
for life only; so called, because held *ex mero*

beneficio of the donor; and the tenants were bound to swear fealty to the lord, and to serve him in the wars. In after-times, as these tenures became perpetual and hereditary, they left their name of beneficia to the livings of the clergy; and retained to themselves the name of feuds.

BENEFICE, in an ecclesiastical sense, is a church endowed with a revenue for the performance of divine service; or the revenue itself assigned to an ecclesiastical person, by way of stipend, for the service he is to do that church. All church preferments, except bishoprics, are called benefices; and all benefices are, by the canonists, sometimes styled dignities; but we now ordinarily distinguish between benefice and dignity; applying dignity to bishoprics, deaneries, archdeaconries, and prebendaries; and benefice to patronages, vicarages, and donatives. Benefices are divided by the canonists into simple and sacerdotal. In the first there is no obligation but to read prayers, sing, &c.; such are canonries, chaplainships, chantries, &c.: the second are charged with the cure of souls, or the direction and guidance of consciences; such as vicarages, rectories, &c. The Romanists again distinguish benefices into regular and secular.

BENEFICE IN COMMENDAM is that, the direction and management of which, upon a vacancy, is given or recommended to an ecclesiastic, for a certain time, till he may be conveniently provided for.

BENEFICES, REGULAR, or titular, in the Romish church, are those held by a religious, or a regular who has made profession of some religious order; such are abbeyes, priories, conventuals, &c.; or rather, a regular benefice is that which cannot be conferred on any but a religious, either by its foundation, by the institution of some superior, or by prescription; for prescription, forty years possession by a religious makes the benefice regular.

BENEFICES, SECULAR, are only such as are to be given to secular priests, i. e. to such as live in the world, and are not engaged in any monastic order. All benefices are reputed secular, till the contrary is made to appear. They are called secular benefices, because held by seculars; of which kind are almost all cures.

BENEFICES, VACATING. The canonists distinguish three manners of vacating a benefice, viz. 1. De jure, when the person enjoying it is guilty of certain crimes expressed in those laws, as heresy, simony, &c. 2. De facto, as well as de jure, by the natural death or the resignation of the incumbent; which resignation may be either express, or tacit, as when he engages in a state, &c., inconsistent with it, as, among the Romanists, by marrying, entering into a religious order, or the like. 3. By the sentence of a judge, by way of punishment for certain crimes, as concubinage, perjury, &c.

BENEFICIARIUM, in Roman antiquity, denoted, 1. Soldiers who attended the chief officers of the army, being exempted from other duty. 2. Soldiers discharged from the military service or duty, and provided with beneficia to subsist on. These were probably the same with the former, and both might be comprised in the

same definition. They were old experienced soldiers, who having served out their legal time, or received a discharge as a particular mark of honor, were invited again to the service, where they were held in great esteem, exempted from all military drudgery, and appointed to guard the standard, &c. These, when thus recalled to service, were also denominated *evocati*; before their recal, *emeriti*. 3. Soldiers raised to a higher rank by the favor of the tribunes or other magistrates. *Beneficiarius* frequently occurs in the Roman inscriptions found in Britain, where *consulis* is always joined with it; but besides *beneficiarius consulis*, we find in Gruter *beneficiarius tribuni, pratorii, legati, prefecti, pro-consulis*, &c.

BENEFICIARY, *beneficiarius*, is particularly used for a beneficed person, or one who receives and enjoys one or more benefices. A beneficiary is not the proprietor of the revenues of his church; he has only the administration of them, though unaccountable for the same to any but God.

BENEFICIARY is also used, in middle age writers, for a feudatory or vassal. The denomination was also given to the clerks or officers who kept the accounts of the beneficia, and made the writings necessary thereto.

BENEFICIO PRIMO ECCLESIASTICO HABENDO, a writ directed to the lord chancellor, &c. by the king, to bestow the benefice that shall first fall, in the king's gift, on this, or that man.

BENEFICIUM, in military matters, among the Romans, denoted a promotion to a higher rank by the favor of some person in authority.

BENEFIELD (Sebastian), an eminent divine of the seventeenth century, born in 1559, at Prestonbury in Gloucestershire, and educated at Oxford. In 1608 he took the degree of D. D. and five years after was chosen Margaret professor in that university. He had been presented several years before to the rectory of Meysey-Hampton, in Gloucestershire. He published commentaries on the first, second, and third chapters of Amos; a considerable number of sermons, and some Latin treatises. He died in 1630.

BEN'EFIT, *v. n.* See **BENEFICE**. A kindness; a favor conferred; an act of love.

Bless the Lord, O my soul, and forget not all his *benefits*. *Psalms.*

The creature abateth his strength for the *benefit* of such as put their trust in thee? *Wisdom.*

When noble *benefits* shall prove Not well disposed, the mind grown once corrupt, They turn to vicious forms. *Shakspeare.*

What course I mean to hold, Shall nothing *benefit* your knowledge. *Id.*

Neglect not, and the *benefit* embrace By faith, not void of works. *Milton.*

To tell you, therefore, what I have *benefited* herein, among old renowned authors, I shall spare. *Id.*

He was so far from *benefiting* trade, that he did it a great injury, and brought Rome in danger of a famine. *Arbutnot.*

BEN'EMPT, *adj.* See **NEMPT**. Named; marked out: an obsolete word.

Much greater gifts for guerdon thou shalt gain, Than kid or cosset, which I thee *benempt*; Then up, I say. *Spenser.*

BENENAIM, **BENENATH**, **BENENASCH**, or **BENENAT**, in astronomy, the outermost star of the second magnitude, in the tail of *ursa major*. It is also called *allioth*.

BENEPLACITO, in music-books, signifies, if you please; or if you will.

BENERTH, a feudal service formerly rendered by the tenant to his lord, with his plough and cart.

BENESOEUF, a town of Egypt, seated on the western shore of the Nile, and remarkable for its hemp and flax.

To BENET, *v. a.*, from net; to ensnare; to surround as with toils.

Being thus *benetted* round with villains,

Ere I could mark the prologue, to my bane

They had begun the play.

Shakspeare.

BENEVENTO, a duchy of Italy, in the kingdom of Naples, with an archbishop's see; it is situated near the confluence of the rivers Sabato and Calore, in a fertile valley called the strait of Benevento. It was once a more considerable territory, but now consists only of the city of Benevento, and a small surrounding district of about eleven square miles; comprising that city and seven villages and hamlets, with a population of about 24,000 individuals. It is a fertile tract, producing excellent wine and fruit, besides feeding numbers of cattle, and yielding some corn; it has also many excellent springs. This district was first erected into a duchy by the Lombards in 571. The successor of its first prince, Zotto, conquered a great part of the country, which now constitutes the kingdom of Naples: after this it passed into the hands of the Saracens and Normans. The modern duchy of Benevento, however, long maintained its independence, and was, in the eleventh century, granted to the Holy See by the emperor Henry II. in exchange for some jurisdictions he possessed at Bamberg. From that time it may be said to have remained in possession of the church; for though there has scarcely been a sovereign of Naples who has not seized it in the course of his reign, it has always returned to the original possessor. Buonaparte availed himself of the disputes between the Neapolitan and Papal powers, to seize upon this duchy, which he conferred on his minister Talleyrand, whom he created duke of Benevento. The Beneventine duchy acknowledged this new master for about ten years; when its annual revenue was about 14,000 ducats, or £2300.

BENEVENTO, the capital of the above duchy, is situated on a steep declivity, at the point of a hill, between two narrow valleys; the one watered by the Sabato, and the other by the Calore, which unite into one stream below the town. This city in general is well built; but several of the most populous streets are narrow, and some of them so steep as to be impassable for carriages. It contains about 18,000 inhabitants. Few places except Rome can boast of more antiquities. Its origin seems to be hid in obscurity; but there is no doubt that it was one of the principal towns of the Samnites. See **BENEVENTUM**.

The arch of Trajan, now called the *Porta Aurea*, forms one of the entrances to the city.

This arch, though it appears to great disadvantage from the walls and houses that enclose it on both sides, is in tolerable preservation, and one of the most magnificent remains of Roman grandeur. The architecture and sculpture are both singularly beautiful. This elegant monument was erected A.D. 114, about the commencement of the Parthian war, and after the submission of Decebalus had entitled Trajan to the surname of *Dacicus*. The order is Composite, the materials white marble, the height sixty palms, length thirty-seven and a half, and depth twenty-four. It consists of a single arch, the span of which is twenty palms, the height thirty-five. On each side of it, two fluted columns, upon a joint pedestal, support an entablature and an attic. The intercolumniations and frieze are covered with basso-relievos, representing the battles and triumph of the Dacian war. In the attic is the inscription. As the sixth year of Trajan's consulate, marked on this arch, is also to be seen on all the military columns he erected along his new road to Brundisium, it is probable that the arch was built to commemorate so beneficial an undertaking. The whole upper division, representing the apotheosis of the emperor, nearly approaches to the perfection of the finest Grecian bas reliefs. Benevento also possesses the remains of several other excellent pieces of sculpture, and those of a Roman amphitheatre. Scarce a wall is built of any thing but altars, tombs, columns, and remains of Roman architecture. The cathedral is a Saracenic edifice, dedicated to the Virgin Mary. It was built in the sixth century, enlarged in the eleventh, and altered considerably in the thirteenth, when archbishop Roger adorned it with a new front. To obtain a sufficient quantity of marble for this purpose, he spared neither sarcophagus, altar, nor inscription; but fixed them promiscuously and irregularly in the walls of his barbarous structure. Three doors (a type of the trinity, according to the rules established by the mystical Vitruvii of those ages), open into this façade. That in the centre is of bronze, embossed with the life of Christ, and the effigies of the Beneventine Metropolitan, with all his suffragan bishops. Near one of the town gates an ancient monastery presents a good specimen of the style which prevailed during the early period of the lower Greek empire. The castle is said to have been built in the year 1323. This town has often suffered greatly by earthquakes. In 1688 it was almost destroyed by one; and the archbishop, afterwards pope Benedict XIII., was dug alive out of the ruins, having been preserved by an incurved beam that fell over him. On his promotion to the papal chair he rebuilt the city. It was afterwards greatly damaged by another earthquake in 1703. It has given birth to three popes.

BENEVENTUM, a town of the Samnites, formerly called *Maleventum* from the unwholesomeness of the wind, and under that appellation mentioned by Livy; but after a Roman colony was led thither, A.U.C. 485, it came to have the name of Beneventum, as a more auspicious title. It is mentioned by Horace as an ancient city, said to have been built by Diomedes, before,

the Trojan war. Near it, on the Appian way, stood the city of Caudium, at the narrow pass near which (the Furca Caudinæ) the Samnites obliged two Roman armies to pass under the yoke, in the year of the city 433. About fifty years afterwards, Pyrrhus was defeated in the same neighbourhood by the Consul Curius Dentatus. Here also the brutal Charles of Anjou, king of Naples, triumphed over his rival Manfred in 1266.

BENEVOLENCE, } *Benevolentia*, Latin,
BENEVOLENT, } from *bene* and *volens*,
BENEVOLENTLY, } well-willing; friendly;
BENEVOLOUS. } kind; gracious; fa-
vorable; benevolence; a good-will.

Grasp the whole worlds of reason, life, and sense,
In one close system of benevolence. *Pope.*

Thou good old man, benevolent as wise. *Id.*

Nature all
Is blooming and benevolent like thee. *Thomson.*

A benevolent inclination is implanted into the very frame and temper of our church's constitution.

Fuller. Moderation of the Church of England, p. 509.

It is the benevolent passions only, which can exert themselves without any regard or attention to propriety, and yet retain something about them that is engaging. *Smith. Moral Sentiments.*

BENEVOLENTIA REGIS HABENDO, a form in ancient fines, to purchase the king's favor, in order to be restored to estate, title or place.

BENFELD, or BENFIELD, a town of France, in the department of the Lower Rhine, the cidevant Alsace, seated on the Ille, fifteen miles south-west of Strasburg. Its fortifications were demolished in consequence of the treaty of Westphalia.

B E N G A L.

BENGAL, a large province of Hindostan, lying between the twenty-first and twenty-seventh degrees of north latitude. It is bounded on the north by Nepaul and Bootan; on the south by the bay of Bengal; on the east by the Burmese territories; and on the west by Bahar. Its length may be estimated at 350 miles, and its average breadth at 300. The northern frontier is guarded by a broad belt of low land, covered by impenetrable woods; beyond this rise the bold mountains of Hindostan. On the south, it is protected by the forests and shallows of the coast, the outlets of the Ganges, and the difficult access to its only port; while on the west, where alone an enemy is to be apprehended, the natural frontier is strong, and the contiguous region sterile and thinly inhabited. The river Ganges flows along Bengal in a south-easterly direction, separating the whole country into two territorial divisions, of which, in case of invasion, the eastern tract would present an asylum to the inhabitants.

Abul Fazel in 1582 describes the province as follows:—'The soubah of Bengal is situated in the second climate. From Chittagong to Kurhee is 400 coss difference of longitude; and from the northern range of mountains to the southern extremity of Sircar Madarun (Birbhoom) comprehends 200 coss of latitude. When Orissa was added to Bengal, the additional length was computed to be forty-three coss, and the breadth twenty coss. Bengal was originally called Beng. The soubah of Bengal consists of twenty-four sircars, and 787 mahals. The revenue is 1,49,61,482 sicca rupees; and the zemindars, who are mostly koits, furnish 23,330 cavalry, 801,158 infantry, 170 elephants, 4260 cannon, and 4400 boats.'

At the period when the institutes of Acber were compiled, the government of Bengal extended to Cuttack, and along the Mahanuddy River, Orissa not being then formed into a distinct soubah, as appears from the arrangement of the twenty-four sircars immediately following, of which the last five are in Orissa.

'1. Oudumbher, or Tandch; 2. Jennctabad;

3. Futtehabad; 4. Mahmoodabad; 5. Khalifetabad; 6. Bokla; 7. Purmeah; 8. Taugepoor; 9. Ghoraghaut; 10. Pinjerah; 11. Barbuckabad; 12. Bzoocha; 13. Soonargong; 14. Silhet; 15. Chatgong; 16. Shereefabad; 17. Solimabad; 18. Satgong; 19. Madarun; 20. Jellasin; 21. Buddruck; 22. Cuttak; 23. Kullangdunpaut; 24. Raje Mahindra.'

Anterior to the cessions made by the Nabob of Oude, in 1801, the regions immediately governed by the Calcutta presidency, comprehended the entire soubahs of Bengal and Bahar, part of the soubahs of Allahabad, Orissa, and Berar, and some tracts of country which had maintained their independence during the most flourishing period of the Mogul empire, consisting of part of the Morung, Cooch Bahar, and other districts, which have become tributary since the English became possessors of Bengal.

The greater part of the country forms one vast alluvial plain, descending imperceptibly to the sea, and annually covered by the inundations of the Ganges. Beng, the ancient name of this level region, is supposed to have been the origin of the present name of the province, while the higher lands, above the limit of the inundation, were called Varendra, or Barendra. Châti-gâng, or Chittagong, Silhet, and Bêrb'húm, are the only parts of the province which can be called mountainous, and they scarcely deserve the name.

The rivers, besides those gigantic streams, the Ganges, the Brahma-putra, and Megna, are the Rûp-narâin, Dâmôdâ, Têstâ, Cûram, Corotoyâ, Mânas, Côsî, and Cónki. The J'hîls, called lakes, are rather morasses, or inundated valleys, than lakes; but are generally navigable for boats in the wet seasons. To check as much as possible the force of the inundation, embankments are indispensable, and the sum allowed by government for their maintenance, amounted in 1815 to 247,457 rupees, or £30,932. 2s. 6d. sterling.

The periodical winds prevalent in the Bay of Bengal, extend their influence over the entire level, until diverted by chains of mountains.

Those that prevail over that part of the country facing the head of the bay, are north and south; the former of which blows during the cold season, the latter during the hot. The period of their change, however, seems earlier on the eastern side of the Delta, than on the western; and, in this respect, corresponds with a difference observed in the periodical winds on the respective shores of the bay. In Bahar and Assam, the most common winds are east and west, also corresponding with the changes of seasons. In the month of April, and in the south-east quarter rather earlier, there are frequent storms of thunder and lightning, attended by heavy squalls from the north-west, which happen at the close of the day; and during this period great caution is necessary in navigating the large rivers. In the beginning of June, the periodical rains commence, and commonly last till the middle of September, when they are succeeded by an excessive heat, which, however, gradually diminishes as the year advances. If the rains break up early in September, the heat becomes almost intolerable, and is attended with a great sickness and mortality, especially among Europeans.

Although, properly speaking, there are but three seasons in the year, viz. the cold, hot, and rainy, the inhabitants commonly assign six, each continuing two months. The spring and dry seasons occupy four months, during which the heat progressively increases, till it becomes almost insupportable, even to the natives; the sun's beams are too powerful for the eyes at noon-day, and the large stars, as Venus and Jupiter, shine with surprising lustre. Mild showers in the east districts, and the thunder-storms called north-westers in the middle, nevertheless, cool and refresh the atmosphere, and the scorched inhabitants are at length relieved by the rainy season, during the first two months of which the rains are heavy and almost unremitting; an interval of many successive days is rare. In the two subsequent months, the intervals are more frequent, and of longer duration, and the climate becomes more sultry. The rivers, and especially the Ganges, which begins to rise before the commencement of the rainy season, in the third month reach their greatest height, and the Delta becomes overflowed. A striking scene now presents itself: large sheets of water, with ears of rice floating on the surface, stupendous mounds and dykes, at intervals checking the progress of the inundation, and navigation over fields submerged to a considerable depth, and peasants embarked on rafts, with their families and cattle, repairing to market, or to the higher grounds, present an association of objects, which are novel and interesting in the highest degree to a stranger.

At the approach of winter the rivers decrease, the showers cease to fall, and the inundation drains off; after which, as the cold season comes on, fogs and heavy dews produce an almost continued dampness, which, combined with the effects of a tropical sun, is injurious to the health of Europeans, and annually carries off great numbers of our fellow-countrymen. Frost and extreme cold are experienced in the higher latitudes, and even in the flat country ice is obtained

by the simple process of assisting evaporation in porous vessels, although the atmosphere is much warmer than the freezing temperature.

The original soil of Bengal appears to be clay mixed with a considerable portion of silicious sand, fertilised by various salts, together with decayed vegetable and animal substances. These form a compost highly productive, which, combined with moisture, and the heat of the climate, accounts for a luxuriance and rapidity of vegetation almost unparalleled. In the flat country sand alone forms the general basis of the succeeding strata of superincumbent earth and a period of thirty years is scarcely sufficient for covering it with soil sufficient to reward the labors of the husbandman. Beneath the annual inundations however fertilisation is extremely rapid, owing to the rich deposits, and the dissolution of the clay.

The assemblage of peasants in their villages, their small farms, and their want of enclosures, present an insurmountable barrier to all great improvements in husbandry; but in a country subject to the incursions of pirates and banditti, called Dacoits, together with the ferocious ravages of tigers, and other wild beasts, solitary dwellings would be insecure.

In Bengal and Bahar, not more than one-third of the land is tilled, exclusive of lays and fallows; being little more than one acre of cultivated land to every inhabitant. Labor is, nevertheless, extremely cheap; in some districts not more than a penny or two-pence per day for a man; but fuel, herbs, and fruit cost nothing; the wife spins and weaves cotton, to clothe herself and husband; and the children run about naked. Near the sea, rice, further up wheat and barley, in the middle districts the mulberry, and in the northern and western divisions the poppy, are primary objects of cultivation. Rice is the species of grain most extensively cultivated, and is almost infinitely varied, from the periods and situations in which it is grown. The best is that gathered in at the beginning of the winter. The wild plant sows itself about that time, and vegetates with early moisture at the approach of the rains, during the continuance of which it ripens, and drops its seed as before. Wheat and barley are sown at the commencement of the cold season, and reaped in the spring. A great variety of pulse is sown or reaped in the winter. Maize is cultivated mostly in the western districts, where the soil is poor, and the surface hilly. Mustard, linseed, sesamum, and palma Christi, are extensively cultivated for the sake of the oils extracted from them, which, as well as that expressed from the cocoa-nut, have a vast consumption. Tobacco, cotton, indigo, together with the mulberry and poppy, require land peculiarly appropriated to them; and of indigo, newly cleaned ground produces the largest crops. The Bengalese plough is peculiarly defective: the share, having neither width nor depth to stir a new soil, can only scratch the surface of what has often been turned before. This deficiency the natives endeavour to supply by ploughing the land several times over; a second ploughing crosses the first, and a third is sometimes given diagonally to the preceding. These, frequently repeated, and followed by a branch of a tree, or some other substitute

for a harrow, pulverise the soil, and sweeten it for the reception of the seed. The field, after it has been sown, must be watched for several days, to defend it from the depredations of numerous flocks of birds by day, and of large bats by night; the same care is also necessary with fields of maize and millet, when the harvest approaches maturity, particularly in regions that are much infested with wild boars, elephants, buffaloes, and deer. For this purpose a bamboo stage is erected, similar to those used in Arabia, and represented in Niebuhr's plates. On these watchmen are placed, to scare away the rapacious intruders. Every harvest in Bengal is reaped by the sickle, the scythe being unknown. The practice of stacking corn, to be preserved for seed, is unusual; the corn is trodden out by cattle, after which it is winnowed by the wind, and stored in jars of unbaked earth, or in baskets made of large twigs, which are deposited in circular huts, raised one or two feet above the surface of the ground. The rotation of crops, which engrosses so much attention among the enlightened cultivators of Europe, is not understood in India, and a course of husbandry, extending beyond the year, was never dreamed of by a Bengalee farmer. The tanks, or reservoirs, and embankments, for the management of forced rice by irrigation, are in so miserable a state of decay, as to become public nuisances, by the pestilential vapors which they exhale. Manure is never employed, except in the growth of mulberry, tobacco, poppy, sugar, and some other articles. The land, though permitted a lay, never lies fallow. In short, a worse system of management can scarcely be imagined than that employed by the natives of Bengal.

Small commons, interspersed among the arable lands, and downs or forests in the hilly districts, furnish the cattle with provender. Grass is cut for them when in the stall, and their dung collected for fuel. The Indian, by means of almost unparalleled perseverance, obtains the object of his toil, notwithstanding the apparent inadequacy of the wretched implements he employs; and, as the want of capital prevents the subdivision of labor, he turns his hand from one branch of his trade to another, with an adroitness which is observed by Europeans with surprise. Every manufacturer, artist and laborer, working on his own account, conducts the whole process of his art himself, from the formation of his tools to the sale of his produce in the market. Wages are extremely low, and, as the usual hire of a plough is less than sixpence per day, ten ploughs may be employed for about thirty shillings per week. Rice is cleaned by persons who undertake that work on condition of returning five-eighths of the weight freed from the husk, and receiving the overplus for their labor. Five quarters per acre are accounted a large crop, and a return of fifteen for one on the seed. Although the laborers are commonly hired servants, in some districts slaves are employed, but they are humanely treated. A strong evidence of the improvement of agriculture in this province is afforded by the fact, that from 1790 to 1800, notwithstanding an increased export of grain, together with a very extensive growth of sugar, indigo, and other articles, rice

became more abundant and lower in price than had been known since Bengal was ceded to the English; nor has any thing like a famine been experienced since 1770.

The orchard in this province is what chiefly attaches the peasant to his native soil, owing to the superstitious veneration which he retains for the trees planted by his ancestors. Orchards of mangoes (*mangifera Indica*) adorn the plain in every part of Bengal; the palmira, or wild date (*elate sylvestris*) abounds in Bahar; the cocoanut thrives in those parts of the province within and near the tropic, and the date tree (*phœnix dactylifera*) over the whole region. Plantations of areca are found in the central parts of the province; the *bassia* thrives in the hilly districts, and on the poorest soils; its inflated corols are esculent and nutritious, yielding by distillation an intoxicating spirit; and from its seeds is expressed a grateful oil, which, in the mountainous districts, is used instead of butter. Numerous clumps of flourishing bamboos diversify the whole face of the country. So rapid is the growth of this plant, that it completes its greatest height within a single year; and in the year succeeding the wood acquires all that hardness and elasticity for which it is so highly valued. A single acre of bamboos yields more wood than ten of any other tree. Potatoes have been introduced by Europeans, and are said to be little inferior to any in our own country, although the watery insipidity of tropical plants is a circumstance commonly complained of by Europeans.

The staple productions of Bengal are sugar, tobacco, silk, cotton, indigo, and opium. The sugar-cane, the name of which was scarcely known to the ancient inhabitants of Europe, grew luxuriantly in every part of Bengal, and its adjacent territories, especially in the districts of Benares, Bahar, Birbhoon, Rungpoor, Midnapoor and Burdwan. This plant was introduced from India to Arabia, and thence to Europe and Africa. From Benares to Rungpoor, and from the borders of Assam to Cuttack, oilcake is frequently applied to it instead of manure; and so great is its fertility in Bengal, that there seems to be no other bounds to the possible production of sugar than the limits of the demand. The internal consumption is vast, and the manufacture so cheap, that raw sugar may be purchased in the Calcutta market under 18s. 6d. per maund, of about eighty pounds weight.

Tobacco was unknown in India, as well as to Europe, before the discovery of America. According to a proclamation made by Jehangire, and mentioned in his memoirs, it appears that it was introduced by Europeans, either in his own reign, early in the seventeenth century, or during that of his father Acher, and was too congenial with the habits of the Asiatics not to come very soon into general use, especially as the practise of inhaling the smoke of hemp leaves, and other intoxicating drugs, was both ancient and universal. The cultivation of it prevails mostly in the northern districts, over every part of Hindostan, requires a good soil, and including every charge for duties and agency, may be procured in the market of Calcutta at the low price of eight shillings per maund.

Cotton is cultivated in every part of Bengal; and that grown in the eastern districts is of very superior quality, fit for the most delicate manufactures. Large quantities are likewise brought from the banks of the Jumna and the Deccan; but the best import is that brought by land from Nagpoor to Mirzapoor, in the province of Benares, and sold there for about £2. 5s. per cwt. although its average price in Nagpoor is not more than two-pence half-penny per pound. The name of this article is derived from the Arabic *kutn*, pronounced *cootn*.

Europe was anciently supplied with silk through the medium of India; the original language of which has names both for the silk-worm and for the silk in a state of manufacture. Amongst the numerous tribes of Hindoos, derived from a mixture of the original tribes, are two separate classes, whose appropriate occupations were the feeding of silk-worms, and the spinning of silk. A peasant who feeds his own silk-worms, has full employment for his family. The rearing of them is, however, chiefly confined to the district of Burdwan, and the banks of the Bhagirathai and Great Ganges, from the fork of these rivers to the distance of one hundred miles down their streams. The Company's investment is made principally at Cossimbazar, Rungpoor, Malda, Radnagore, Bauliah, Jungceypoor and Comercolly. Much is also procured from wild silk-worms. Four crops of mulberry leaves are obtained from the same field in the course of a year, and many worms are fed on other plants besides the mulberry.

Indigo, which derives its name from India, has been cultivated there from the earliest period, and that country anciently supplied all Europe, till the produce of America engrossed the public attention, and drove the Asiatic manufacture out of the market. The perseverance of a few individuals has restored this branch of Bengalee commerce to its original channel, by no other means than the manufacture of a superior article; for, with respect to the culture, no material change has taken place in the practice of the natives. The total manufacture of indigo in Bengal, in 1807 and 1808, was not less than 120,000 factory maunds; and the aggregate sold at the East India Company's sales, in 1810, amounted to 5,253,489 lbs. and netted £1,942,328. In 1814 no fewer than 102,524 factory maunds (8,200,000 lbs.) were entered at the custom-house at Calcutta.

The consumption of animal food is insufficient to render the rearing of cattle an object of any considerable profit, although stock can be grazed at the very low rate of half a rupee, or even a quarter of a rupee (the former equal to 1s. 3d. the latter to 7½d. of our money), per annum. The tattoos, or native horses, are a thin, ill-shaped, miserable breed, unfit for labor; bullocks alone are used in the plough and team. The sheep are a dark, gray-colored, thin, diminutive breed; but when fattened make excellent mutton. Some of them have four horns, two on each side of the head. Pariah dogs infest the streets throughout all the towns, jackals every thicket, and the approach of the enemy is announced by the howling of the numerous flocks of them which

then quit their retreats in the jungles. Apes and monkeys swarm in the woods, and, being sacred animals, are often fed by pious Hindoos. The brahminy, or sacred ox, rambles about the villages without molestation, and is both pampered and caressed by the people, who consider this a meritorious act of religion. Crows, kites, sparrows, and mayanas (*coracias Indica*), familiarly hop about the habitations of the Bengalese; and storks, from their erect stately gait called adjutants by the European soldiers, are almost as common as the toads, snakes, lizards, and insects, on which they feed.

Fish is extremely plentiful, of which a great diversity of kinds is found in the Ganges and its branches. They often become the food of the poorest natives, and the smallest kind are equally acceptable in a curry, the standing dish in every Hindoo family, which, with a pilau nearly comprehends their whole art of cookery. The bickly, or cockup fish, are extremely rich; but the highest flavored fish in Bengal, and perhaps in the whole world, is the *polynemus paradisea*, or mango fish, so called from its appearing in the rivers during the mango season. Mullet are found in all the rivers, and are killed with small shot, as they swim against the stream. The turtles are indifferent, but the small oysters from the coast of Chittagong are excellent. Alligators and porpuses abound in all the rivers of Bengal.

The natives of Bengal are handsome and lively, of highly polished manners, possessing a soft expression of countenance, and mildness of character. Though thin, they are small and well shaped, of an olive tint, black hair and eyes, oval face and aquiline noses. The clothing of the poor consists of little else than a rag round their waists. The rich, when abroad, have dresses much like the Mahommedans; but within doors resume their old national costume, consisting of different pieces of cloth twisted round the body, with one end tucked into the folds. Upon the head nothing is worn. The women rub red lead on their foreheads, blacken their teeth with a preparation of vitriol and iron filings; and are peculiarly fond of trinkets. Rings of shell lac round the arms, and bracelets of mother-of-pearl are favorite ornaments; as are also trinkets generally; and proud is the woman who hears herself described as walking like a duck or an elephant, having teeth as black and red as the seeds of the pomegranate; a nose like a parrot's beak; hands and feet as wide spreading as the water-lily; lips as red as the fruit of the *tálacúcha*, and a chin as plump as a mango. Widows of a pure caste, however handsome, are stripped of their ornaments, condemned to sleep on the ground, exposed to damp, vermin, and other inconveniences, and to act as menial servants to the young, who are decked out in the finery of which their elders have been deprived. This, in all probability, is one reason why so many prefer the funeral pile, with the expectation of bliss in another world.

The natives of the mountains beyond Bengal, along the northern boundary, indicate, by their features, a Tartar origin. The inhabitants of the eastern hills and plains adjacent, are obviously of peculiar derivation, whilst the elevated tract

included in the western part of Bengal, is peopled by several races of mountaineers, the probable aborigines of the country. Distinguished in character, language, manners, features, and religion, from the Hindoo nation, the race descended from this stock people the vast mountains which bulge from the centre of India; and some tribes of them have not yet emerged from the savage state. In the mixed population of the middle districts, the Mohammedans and Hindoos claim the pre-eminence. Among the former may be discriminated the Moghul, the Afghan, and their immediate descendants from the naturalised Mussulmen; and among the latter the peculiar traits of a Bengalese from those of the Hindostany. The native Bengalese have been thought pusillanimous; and the descendants of foreign settlers are fond of tracing their origin to the countries of their ancestors. No native, however, has any motive to distinguish himself in the army, as he cannot rise higher than a soubahdar, a rank inferior to an ensign.

Slavery, in its severest sense, is unknown in Bengal. Domestic slavery is, indeed, allowed by law, but the slaves are rather treated as hereditary servants. The marriage of slaves is never impeded, and many children are born in that condition; but it is thought disreputable to sell them, and an act of piety to grant their manumission. Parents themselves usually meet the demands of the market, by disposing of the children which poverty and misfortune have rendered them unable to support. The prices given even in that case for infants is extremely small, except either when the purchaser is a Brahmin of some religious order, who wants a disciple to assist him in begging, or when he is the master of a troop of dancing girls and prostitutes, who wishes to replenish his stock. Slaves in Bengal are, in all cases, placed under the protection of the law.

Of the population of Bengal various estimates have been given at different times; none of which, however, are thought equal to the real amount. In 1789 Sir William Jones estimated the inhabitants of Bengal and Bahar at 24,000,000. Mr. Coleman, in 1793, made them 27,000,000. Another estimate, formed in 1790, carries the population of Bengal, Bahar, and Benares, to 32,787,500. Under the direction of the marquis Wellesley, in 1801, was taken a more accurate survey than any of the preceding; the result of which has never been communicated to the public in any authentic form. The average upon the whole, in well-peopled districts, is about 200 to every square mile, and the total population of the three provinces already named more than 30,000,000. The population of Bengal, under the British government, has undergone a progressive increase, surpassing that of England, although it has met with some severe checks: as in 1770, when one-fifth of the inhabitants perished by famine; in 1784, when the same calamity prevailed; in 1787, when great numbers in the eastern provinces perished by inundation; and in 1788, when there was a partial scarcity.

Small villages line the banks of the rivers as thickly as in the most populous parts of China, and are surprisingly numerous. The cheerful,

bustling multitudes of men, women, children, poultry, and cattle, all mixed and crowded together, which continually meet the traveller's eye, as he sails or is towed along from place to place, show a sense of security, and an appearance of happiness, which will in vain be sought for beyond the demarcation of the Company's territories. Even pirates and banditti have been effectually checked, and will no doubt in a few years be entirely extirpated.

In point of national character, the native Bengalese are artful, fraudulent, indolent, and thriftless. Flattering pictures have, indeed, been given of their morals by some writers who were evidently misled by partial and erroneous views, whilst the Protestant missionaries, on the other hand, have given a delineation exactly the reverse. To obtain information from a source, the purity of which cannot be controverted, we must have recourse to the records of the courts, and the reports of the magistracy; which furnish precisely the species of evidence that is required. From these we learn that robbery, even when accompanied by great atrocities, neither occasions remorse in the offenders, nor detestation in the public; that a general want of moral principle is notorious, in both Mahommedans and Hindoos, the lower classes of the former having adopted the idolatrous usages of the latter; that the bloody execrable worship of Cálí sanctifies the most atrocious barbarity; that perjury is scarcely considered a crime; and that the depraved character of the Hindoo mythology, combined with the Mahommedan doctrine of fatality, exerts a powerful and deleterious influence upon the sentiments and habits of the people. The abolition of mutilation and pecuniary commutation for murder, acquittal in default of proof of a malicious intention to assassinate, with other regulations established in our Indian tribunals, have in some measure diminished the mass of crime, and rectified the leading defects of the Mahommedan law; and at some future period may have the effect to purge out the old leaven, and produce a more extended reformation in the depraved manners of the people.

Considerable pains are now taken with the rising generation. The native children are early taught the elements of their language. About the age of five they are sent to the village school-master, who assembles them under the shade of a spreading tree, and, on a plan similar to the one adopted in our National Schools, teaches them to read and write in six months. They are next occupied for a year in learning to write with a reed and ink on the leaves of the palmira (elate sylvestris), and acquiring the rudiments of arithmetic, together with a knowledge of the common tables of weights and measures. Writing on paper, and summing, commonly finish their education. The arithmetic necessary for agricultural and commercial pursuits is taught separately, and mensuration and book-keeping are learned practically in some shop or warehouse, where the youth is placed upon his leaving school. The Hindoos anciently wrote with iron styles, instead of reeds, upon the narrow leaves of the palmira. Their books consist of separate leaves, which are filed on iron pins, and guarded at the top and bottom

with a flat strip of wood. The whole is tied with a string, and wrapped up in a cloth. One rupee is paid for every 32,000 letters; so that the Mahābhārat would cost sixty rupees (about £8); the Rāmāyan 24 (£3); and the Śrī B'hāgavat 18 (£2. 10s.). Divinity, astrology, and law, are almost the only sciences now studied, and learning has been long on the decline. The natives are, nevertheless, quick and inquisitive, and would probably be much improved by their intercourse with Europeans, but for that supreme contempt for other nations, generated by the notion of their being designated Hindoos.

The Bengalese, generally, are abstemious in their diet. In the morning, and at noon, the common repast amongst the upper classes is parched or parboiled rice, seasoned with sour milk, tamarinds, or molasses; amongst the poor, a little water with some salt, or acid fruit. Milk is always dressed in some way before it is used; butter is boiled, and by that means converted into g'hi, which keeps well, and may be used a year after it has been prepared. Their sweet-meats are fried in oil or butter, and the principal meal is made in the evening. Spirituous liquors are very seldom used for the purpose of intoxication, but preparations of hemp and opium are found very powerful substitutes.

The Mahomedans are computed at one tenth of the population, and abound mostly in the eastern districts. Of the four great Hindoo classes, the Brahmin, Khetri, and Vaisya, amount to a fifth part of the total population. Commerce and agriculture are universally permitted to all classes; and, under the general denomination of servants to the other three divisions, Sudras seem to be allowed to prosecute any manufacture. The Brahmins of this country are looked up to throughout the whole of Hindostan, and are said to have descended from five families introduced from Canó, or *Cānya cubja*, some centuries previous to the Mahomedan conquest. The first in rank are the Cúlinas. Of the Sudras, the Vaidyas, or medical tribe, rank first; next the Cāyasthas, or Cāits, the writers and accountants; besides which there are nine other tribes of uncontaminated Sudras, from whom a Brahmin may condescend to receive a cup of water. It may be observed that none but Brahmins and Sudras are of genuine Bengalese origin, and in the latter tribe are included, not only the true Sudras, but also the several castes whose origin is ascribed to the promiscuous intercourse of the four classes. The purity of caste is maintained by a sort of clubs, or lodges, called dōls, which are again subdivided into smaller societies. In practice, however, little attention is paid to the limitation of caste; so that even Brahmins daily exercise the menial profession of Sudras. The occupation appropriated to each tribe is merely entitled to a preference, the gates of almost all professions being opened indiscriminately. Animal food, also, is by no means universally proscribed among the Hindoos; and the *Agora Punt'h*, a privileged order of mendicants, have even been suspected of anthropophagy.

A rigid observance of all the frivolous and laborious ceremonies prescribed by their religion is thought amongst the genuine Hindoos to be

their truest glory; but truth and honesty are so little in request among them as never to be looked for, and scarcely to be desired. 'A man of integrity,' says a late publication, 'is a wonderful phenomenon; and one conscientious in his whole conduct may be safely pronounced to be an unknown character.' Their dead ought, strictly, to be burnt; but those who cannot afford to raise a funeral pile, stick a whisp of straw into the mouth of the corpse, and then throw it into the nearest river. To the rivers also they carry their expiring relatives when all hope is over, and leave them to die without assistance, or to be carried off by sharks and tigers. The self-immolation of widows has lately been so far checked by the police as to prevent the exercise of any compulsory means.

The hateful distinction of caste in Bengal annihilates every feeling of humanity towards the inferior classes, who, being considered as persons accursed by the gods, have no kindness to expect from those who are the favorites of heaven. Even common fowls are thought by the Hindoos impure. Ducks and pigeons are lawful, geese are kept as pets and rarely sold; but turkeys, with almost all other fowls, are to be met with only amongst the Mahomedans and Portuguese. Dogs and cats are merely tolerated; to kill a dog in order to relieve him from a lingering death would be a crime, and to feed him is no virtue. These animals wander about in a wretched half-starved condition, and even children show no disposition to render them any kindness.

The mechanical arts among the Bengalese are not in a state of great perfection. Their music is harsh and unharmonious; their dancing lifeless and ungraceful. Hymns or love songs, in honor of Crishna the Indian Apollo, and his favorite Rád'hā, sung by the boatmen while rowing on the rivers, are almost the only airs that have any thing of melody. The different trades are professedly confined to different castes, and some of them held in great contempt. Tailor's work is almost the exclusive employment of Mussulmans. The barbers, who pare nails, pick ears, and shave heads, are a pure caste, and are therefore well paid. A woman who cuts her hair is thought to commit a great breach of delicacy, and none but immodest ones ever smoke. The Bengalese artificers are not only clumsy, but indolent; and their metallic manufactures have none of that finish which distinguishes the blades of Damascus, and the filigree of Tunis. Paper was introduced by the Mahomedans, by whom it is usually made.

Amongst the most prominent manufactures of the Bengalese are to be enumerated plain muslins, distinguished by various names, according to the fineness and closeness of the texture; as well as striped, flowered, or chequered. Muslins, denominated from their patterns, are made chiefly in the province of Dacca, to which the manufacture of the thinnest sort of fine muslins is almost exclusively confined. Other kinds, more closely woven, are fabricated on the western side of the Delta of the Ganges; while a coarser sort, characterised by a more rigid texture, together with turbans, handkerchiefs, &c. of a similar quality, is not limited to any particular district. Inferior

muslins both plain and flowered, are obtained from the northern parts of Benares. Calicoes, as they are manufactured in Bengal, include various kinds of cloth, to which no English names have been fixed, and which throughout the whole of Europe, are known chiefly by the Indian denomination *cossaes* (*khassahs*), are manufactured in that part of Bengal north of the Ganges, from Maulda to Berbazie, between the Mahanuddy and Tsamutty rivers. Similar articles are made near Taunda, in the dominions of the nabob of Oude. Baftas are made on the western frontier of Benares, in the neighbourhoods of Allahabad and Lucki-pore, the province of Bahar and other districts. Gurraes are the manufacture of Birbhoom; gezis and geziras are woven in most districts, but chiefly in the Doab of the Ganges and Jumna, together with other kinds of cloth, the names of which are less familiar to the English reader. Sanaes are the chief fabric of Orissa and the district of Midnapoor, whilst some are imported from the territories immediately contiguous. On the northern frontier of Bengal Proper, sackcloth is manufactured from packthread, and serves as clothing to the mountaineers. Blankets are of universal manufacture, and canvass, made from cotton, is woven chiefly in the neighbourhood of Patna and Chittagong. In the centre of the Doab, a coarse cotton cloth, dyed red with cheap materials, are made for home consumption, whilst other sorts, dyed of various colors, especially blue, is prepared for inland commerce and for exportation. Both fine and coarse calicoes receive a topical dyeing, with permanent and fugitive colors, as well for common use as foreign commerce. Benares, the cities of Patna and Calcutta, with their immediate vicinities, are the principal seats of the manufacture of chintzes. The art, long since invented, appears to have been indigenous to India, and is brought to great perfection. Dimities of various kinds, and damask linen, are made at Tandah, Patna, Dacca, and other places. In the neighbourhood of Moorsheadabad is the chief seat of the manufacture of wove silk and taffeta, both plain and flowered. Tissues, brocades, and ornamented gauzes, are manufactured at Benares, although plain gauzes are woven in the western and southern regions of Bengal. The manufacture of mixed goods, composed of silk and cotton, thrives mostly at Maulda and Bogli-poor.

The rum distilled in Bengal proves little inferior to that of Jamaica, leather has been made there with considerable success; and the natives have also arrived at considerable perfection in the fabrication of saddles, harness, military accoutrements, boots, shoes, &c. and at Calcutta is manufactured an excellent species of canvass, which has, in some places, superseded the use of that imported from Europe.

The commerce of Bengal is extensive, consisting for the most part in piece goods, silk, salt-petre, opium and indigo. A considerable quantity of filature silk is exported to the western parts of India: a large proportion of it is sold at Mirzapoor, and passes thence to the Mahratta dominions, and the central parts of Hindostan. Tisser, or wild silk, is procured in abundance from the adjacent territories, where the worms are found in several species of trees

common in the forests of Assam, Silhet, and the Deccan. The color and lustre of this silk is far inferior to that of the domesticated insect, and the cones, although large, are but sparingly covered. Its cheapness, however, is a considerable recommendation: the aggregate production of it might be increased by encouragement; and large quantities, exported to Europe, might be used in the fabrication of coarse silks, or mixed with wool and cotton, might form, as it does now in India, a beautiful and acceptable manufacture.

Various drugs used in dyeing are exported to England; as galls, turmeric, safflower, or carthamus, myrobalaus, roots of morinda, which dye a beautiful color on cotton, and blossoms of the nyctanthes, very useful for giving a permanent color to silks.

The number of articles brought from Bengal at present might easily be augmented; and should freight ever be reduced so low as it might be afforded, corn might be exported to Europe. Rice, barley, and wheat may be shipped in Calcutta for nearly the same price, viz. two rupees and a half per bag, containing two maunds, or from 3s. 4d. to 3s. 6d. per cwt. and rum might be exported at the low price of from 1s. 6d. to 1s. 9d. per gallon. Liquorice and ginger might be exported to any extent. Anotto (*bixa orellana*), coffee, cocoa, cochineal, and even tea, would succeed in this and the adjoining provinces, which comprehend every variety of tropical climate. Madder also grows wild on the neighbouring mountains. Gum Arabic, and many other species of gums and resins, both for manufacture and medicine, numerous varieties of drugs and vegetable oils, tincal, from the high table-land of Thibet, together with sal ammoniac, and alkalies both mineral and vegetable, might be procured in great quantities at a small expense, though seldom imported by British merchants.

Besides the above articles, which are to a certain extent restricted to Bengal and its immediate territories, India furnishes aloes, asafetida, camphor, cassia lignea, cassia huds, benzoin, cardamums, cowries, arrangoes, cinna-bar, china-root, nutmegs, cloves, cinnamon, mace, elephants' teeth, numerous gums, pepper, mother-of-pearl, quicksilver and rhubarb from China, senna, saffron, sago, scammony, anise, coriander and cummin seeds, hemp and flax, which, with all their varieties and substitutes, abound here to greater extent than in any other part of the world. The true hemp is little used by the natives, except for the oil expressed from the seed, for medicine, and for an intoxicating ingredient often mixed with the tobacco of the hookah. The European goods sent out to India are too well understood to require enumeration. The trade between Bengal and the different coasts of the Indian ocean is very considerable. The exports to Madras on the coast of Coromandel are grain, sugar, pulse, salt-petre, molasses, ginger, clarified butter, long pepper, oil, wrought and unwrought silks, muslins, spirits, and provisions. The imports are chiefly salt, red wood, long cloth, izâris (striped calicoes for trowsers), and chintzes, with a balance either in specie or government bills. To China, the next great mart for Calcutta commodities, besides the exports named above, are

sent opium, gunpowder, iron, fire-arms, &c. and tutenague, sugar-candy, tea, alum, dammer, porcelain, lacquered ware, and a vast variety of manufactured articles are imported in return. The trade to Bombay consists of the first-named articles, with the addition of sacking and hempen ropes: amongst the returns may be reckoned teak-timber (tectona), ivory, and lac. To the gulfs of Arabia and Persia, Bengal sends her staple commodities; to Ava and the Birman empire, in addition, fire-arms, stores, naval and military, with a great variety of European goods. From the eastern islands and the Malay coast, she imports pepper, wax, dammer, brimstone, tin, gold-dust, spices, betel-nut, benzoin, specie, &c. From Manilla, besides specie, indigo of a very superior quality, sugar, sapan wood &c. From the Malabar coast, sandal wood, coir rope, pepper, cardamums, cargoes of cotton, wool, &c. From Pegu, teak timber, elephants' teeth, lac, and various other articles.

For inland commerce the province of Bengal possesses many important advantages, being watered by the Ganges from its western boundary to the sea, and intersected in every direction by navigable streams, which fall into that river. There is no division totally destitute of navigation during the rains, and scarcely any part, in the driest seasons, situated more than twenty miles from a navigable river. Rivulets, lakes, and water courses, communicating with great rivers, frequently conduct boats to the peasant's door. The vessels used in this inland navigation are various, adapted to the several streams they are intended to traverse. Flat clinker-built vessels are used in the rapid and shallow streams of the western districts; bulky and lofty-sided barks are commonly employed in the wide and stormy navigation of the lower Ganges. Low, deep, vessels are commonly used in the east, and are best adapted to a sea full of creeks and inlets. In one navigation, wherein vessels descend with the stream and return with the track rope, their construction recognises neither the sail nor the oar. In another, wherein boats in the same voyage are assisted by the stream of one creek, and opposed by the current of the next, as in the Sunderbunds, and under banks impracticable for the track rope, the oar is the principal dependence; a winding course in narrow passages affording few opportunities for the exhibition of the sail. Often grounding in the shallows, vessels would not be safe if constructed with a keel, for which reason, all vessels built in this province want this necessary appendage for quick sailing. The expense of building a Bengalese vessel is comparatively trifling. A circular board lashed to a bamboo forms the oar; a triangular frame sufficiently ballasted, serves for an anchor; a few bamboos bound together form the mast; a cane of the same species becomes a yard to the sail, which itself is generally a piece of coarse sacking, manufactured from the fibrous stem of the rushy *crotilaria*, or hemp *hibiscus*; resin from the trees of the woods serve to pay the seams; and a thatch of straw, with mats, shelters the merchandise, and answers the purpose of a deck. Of these vessels, equipped and navigated with equal frugality, the number employed on the rivers of

Bengal and Bahar is so great as to furnish employment to no fewer than 300,000 men.

For land carriage there are not the same facilities, the highways in general not being in a condition to admit of distant journeys in wheel carriages. Formerly the communication was better assisted; a magnificent road, carried from the banks of the Gograh or Dewah, to the Brahmapootra, formed a safe conveyance through countries subject to inundation, for a distance of 400 miles. Of this road few remains are at present visible, and the beaten path in general directs the traveller. Liability to inundation, and want of good materials, must always impose great difficulty and expense in the construction of carriage roads, whilst the poverty of the agricultural population would not admit of the establishment of tolls. To expedite military movements, the Bengal government have completed an excellent road from Calcutta to Benares, which, so far as it goes, has greatly contributed to the general convenience.

Notwithstanding the superior advantages of water carriage, the cultivator derives little advantage from it; and is for the most part obliged to adopt the other mode. His crops are commonly disposed of as soon as they are reaped, on which occasion he commonly becomes a prey to opulent speculators, who, after they have made a monopoly, fix the prices, and compel the peasant on the return of sowing time to pay exorbitantly for his seed, and very often take mortgages of his estates.

The trade carried on by the East India Company is regulated in the first instance by the Board of Trade, consisting of two members, and a nominal president, a member of the supreme council. Subordinate to this board are commercial agents, stationed in different places, and assisted by the civil powers and native officers.

Häts, or open markets, held on fixed days, in an open plain, and marked by a flag, were anciently the only places at which commercial transactions took place. Shop-keeping, which is still by no means universal, appears to have been introduced by the Mahomedans. Bazaars are an assemblage of shops, collected in one building or area, for the greater convenience of the inhabitants; and ganjs, or banders, are grain markets, or ports, in the canals and branches of rivers, inhabited by merchants or retail traders, under the protection of the nearest police officer.

The currency consists of cauries or cowries, and rupees; the former of which is used only for small change, gold being seldom seen out of Calcutta. The potdars, or money changers, have no shop, but sit in the open market with heaps of cowries piled up before them. In the morning they give cowries in exchange for silver, at the rate of 5,760 for a rupee; but in the evening will not receive them again at a lower rate than 5,920 for a rupee; thus, by a profit of 3 per cent. upon good mint money, imposing upon the ignorance and improvidence of the people. A still greater harvest is reaped by these harpies, in consequence of the fluctuating exchange on clipped or debased coin. Advances are also made to servants, who are paid in monthly wages, and

who thus lose from 65 to 70 per cent. in the course of the year.

The revenue of Bengal is derived chiefly from assessments on the land, made in consequence of the system established by the Moguls, by which the conqueror is considered as the proprietor of the soil; and, in all probability, the zemindars, or land owners, were nothing more than agents appointed to collect the revenue. Grants were also made in favor of the rajas, who had before enjoyed an independent authority. These, whether considered as tributary chiefs, or as feudatories, were looked upon by the Mussulman lawyers as officers of the sultan, and were considered as holding their lands in virtue of their office, and therefore as liable to suspension or removal at the sultan's pleasure. The ryot, or cultivator, is described as a tenant paying rent, and his superior as landlord; but, strictly speaking, his rent was originally a contribution to the state, and the zemindar, standing between him and government, received that levy on behalf of the crown. In the rule for dividing the crop, whether by custom or by special engagement, the proportions were the following, viz. half to the landlord, and half to the tenant; one-third to the landlord, and two-thirds to the tenant; two-fifths to the landlord, and three-fifths to the tenant.

The standard for the regulation of the rates has been lost; but it appears from observations made on the Bengal revenues by the late James Grant, Esq., that the assessment was limited never to exceed the proportion of one-fourth part of the gross produce of the soil. In early times the demands of the Hindoo sovereigns were more moderate, five-fifteenths being the smallest proportion ever assessed by the Mahomedans, and three-fifteenths more than were ever exacted by the Hindoos. The Mahabharat states, that the prince was to levy a fiftieth of the produce of the mines, and a tenth of corn. Menu and other legislators authorise the sovereign to exact an eighth, a tenth, or a twelfth part of grain, according to circumstances; and a sixth of the clear annual produce of trees. It is not clear whether any thing like hereditary authority was ever considered as vested in the zemindars, even under the Hindoo princes, although it is certain that the same lands descended from the father to the son, for many generations. At present, however, from motives of expediency, they are declared the proprietors of the soil, and the assessment on their estates has been irrevocably fixed, according to a valuation made during the administration of lord Cornwallis. Besides this assessment or jama, levied on the zemindars, there is an excise, or *âb-cârî* (a duty on spirits), rates or *sâyir*, levied on personal property; the customs imposed as import duties, tolls at the entrance of towns, on canals, &c. together with stamp duties, and a tax on the pilgrims to Budd'hâ Gayâ, Jagannat'h in Orissâh, Prayâg at the conflux of the Ganges, and Jammûnâ, near Allah-abâd.

A poll tax, called *jaziych* was imposed by the khalif Omar, on all persons not of the Mahomedan faith; the Mussulman conquerors of Hindostan imposed it on the natives as infidels. It was,

nevertheless, abolished by the emperor Acher, and although, at a subsequent period, Aurengzebe attempted to revive it, he failed in the attempt.

Free lands are appropriated to the use of brahmins, bards, encomiasts, ascetics, priests, and mendicants, or as a provision for several public officers. The greater part of them were originally granted in small portions of waste ground.

The class of needy land proprietors is numerous, and the greatest landholders are poor. Responsible to government for a tax, originally calculated at ten-elevenths of the expected rents of their estates, they have no probable surplus above their expenditure; so that any unexpected calamity may involve a zemindar in difficulties, from which by no economy of his own can he possibly be retrieved.

The civil and military governments of the Bengal presidency are vested in the supreme council, consisting of the governor-general, and three counsellors; the former appointed by the king, at his pleasure, the latter by the court of directors, from the civil servants of twelve years standing. For the administration of justice throughout the dominions subject to this presidency, there is one supreme court at Calcutta, six courts of appeal and circuit, attached to six different divisions, and forty inferior courts, or rather magistrates, stationed in the following districts or cities:—

Agra,	Jessore,
Allahabad,	Jionpoor
Alyghur,	Meerat,
Backergunge,	Midnapoor,
Bareilly,	Mymunsingh in
Bahar,	Cuttack,
Benares,	Moorsheadabad,
Birbhoom,	Moradabad,
Boglipoor or Mong-	Mirzapoor,
hir,	Nuddea,
Burdwan,	Purneah,
Balasore,	Raujeshy,
Bundelcund,	Ramghur,
Cawnpoor,	Rungpoor
Chittagong,	Sarun,
Dinagepoor,	Saharunpoor,
Dacca Jelalpoor,	Shahabad,
Etawah,	Sillet,
Farruckabad,	Tiperah,
Goracpoor,	Tirhoot,
Hooghly,	Twenty-four pergun-
Juggernaut,	nahs.

The courts of circuit consist of three judges, with an assistant, and native officers, both Mahomedan and Hindoo, who make their circuits at stated periods. Criminal causes are tried by the Mahomedan law, but so modified as to approach nearly to our own, and when the sentence is capital, or imprisonment is awarded beyond a defined period, the punishment is not executed till it receives the confirmation of the Nizamut Adawlet, or supreme criminal court at Calcutta. In country districts, the officer who in his criminal capacity has the appellation of magistrate, is also the civil judge of the city or district in which he resides. He tries all civil suits within

his jurisdiction, and has for his auxiliaries a registrar, one or more of the junior civil servants, together with native lawyers. An appeal, however, lies in almost all cases to the provincial court, within the jurisdiction of which they reside. To try petty suits, the district magistrate is empowered to appoint native commissioners, with an appeal lying to himself. Each district or *zillah*, is subdivided into portions of about twenty miles square, in each of which a *darogha*, or head police officer, is stationed, with a body of armed followers under his authority, for the apprehension of criminals, or, receiving authority from the magistrate. The average size of a district in this presidency is about 6000 square miles. The ultimate court of civil appeal is the *Sudder Dewanny Adawlet*, in the city of Calcutta, to which all causes involving personal property beyond 5000 rupees value are referrible; and, if the property contested amount to £5000 sterling, an appeal lies from the sentence of this court to the king in council.

Under the Mahomedan and Hindoo governors, suitors pleaded their own causes, who, being ignorant of the subtle usages of law, were frequently duped by the policy of their superiors. In 1793 regular native advocates, educated at the Mahomedan and Hindoo colleges at Calcutta and Benares, were appointed to plead in these courts, for regular fees; who, being equally acquainted with the laws, rules, and practice of the court, impose an effectual check on the negligence or misconduct of the judge and his assistants. Provisions have also been made against the corruption of those on whom the administration of justice depends, and if any individual of the Company's servants is convicted of having received a present from either of the parties who may bring a cause before him, his offence is deemed a misdemeanour in law. Written pleadings in the native languages have been introduced for the sake of precision; written evidence is sometimes admitted, when the witnesses are women, to whose appearance in public the Asiatics have a great dislike; and great indulgence is granted to the scruples of the caste. Suits between native and British subjects, or between the latter alone, are determined before the supreme court of judicature, with an appeal to the king in council. A chief justice, with two puisne judges nominated by the crown, constitute this court. It is held at Calcutta, and a jury of British residents exclusively decides the cause in criminal actions; the court alone in civil ones. Fourteen attorneys and six barristers are attached to this court. The Mahomedan law, as to the substance of it, still continues the foundation of criminal jurisprudence; but both Mahomedans and Hindoos, for the most part, enjoy the benefit of their respective usages.

Private war and assassination, which the weakness of former governments had fostered, are now no longer frequent; incursions from banditti are still more uncommon, and theft, housebreaking, &c. have received an effectual check by the vigilance of the watchmen and police. A crime of the most frequent occurrence in this country, though almost unknown elsewhere, is the murder of children; neighbours, friends, and relatives,

are often the perpetrators of these horrid deeds, in order to obtain the trinkets with which the child is decorated. Much attention has been paid of late to the state of the jails, and the health of the prisoners. The superintendents of the police, appointed in 1812, visit each district in rotation, and make a report accordingly to the governor-general in council.

The laws of inheritance, among both Mahomedans and Hindoos, divide the testator's property equally among all his heirs: which, besides opening a door to endless litigations, presents an effectual barrier to the improvement of landed property, and prevents the proprietor from acquiring that stability and consideration which would render him useful to his family and the state. This want of the privilege of primogeniture, together with other causes, has now thrown the wealth of the country into the hands of merchants and traders, resident in the great towns, who feel the superior security which they enjoy under the British government. The general poverty of the landholders is the effect of improvidence, extravagance, and dissipation, arising from their almost universal insensibility to any but immediate consequences; as also from their committing the management of their estates to unprincipled and rapacious agents. The female zemindars are generally under the direction of brahmins, who exercise an authority over the consciences of their patrons, and exert a considerable influence over their public conduct. To this concealed authority the agent submits, and conciliates it at the expense both of the zemindar and the state.

All the commercial, financial, political, and judicial offices, with a very few exceptions, are filled by the civil servants of the Company; and all vacancies are supplied by annual recruits of young men, to the number of about thirty, sent out from England, at the age of eighteen, under the name of writers. These youths, after having completed three years residence in the country, are eligible to an office of £500 per annum value; after six to one of £1500; after nine to one of £3000; and after twelve to one of £4000 and upwards. The number of civil servants in the year 1811 was as follows:—in Bengal 391; under the Madras presidency 206; under that of Bombay 74; forming a total of no fewer than 671. The whole expense for the same year, including European uncovenanted assistants, amounted to £1,045,400 sterling.

Commercial residents, for purchasing the investments of the Company, are stationed at Bareilly, Bauliah, Commercolly, Cossimbazar, Dacca, Etawah, Golagore, Goracpoor, Hurrial, Hurripaul, Jungeypoor, Keerpooy, Luckipoor, and Chittagong, Midnapoor, Maulda, Patna, Rungpoor, Radnagore, Soonamooky, Santi-poor. The collectors of the government customs are at Dacca, Cawnpoor, Calcutta, Benares, Patna, Moorsheadabad, Hooghly, Furruckabad. The diplomatic residents are at Delhi, Lucknow, Hyderabad, Nagpoor, Mysore, Poonah, and with Dowlet Khow Sindia, who seldom stays long in one place.

The number of native troops in the three presidencies, called *sepoys* (*sipahis*), or soldiers

amount to 122,000, of whom 9000 are cavalry, equally divided between Madras and Bengal. The non-commissioned officers are natives, and those who have commissions, to the number of nearly 3000, are Europeans. Each presidency is also furnished with one regiment of Europeans, besides artillery and engineers; the total number of whom, with their officers, who rise by seniority, exceeds 4000. About 22,000 of the king's troops, also, are usually stationed in India, at the entire expense and disposal of the Company; both armies being under the same commander-in-chief. The total expense in 1811 was £1,154,695 sterling. The annual appointment of cadets for the three presidencies may be averaged, annually, at 120 for the military, and ten for the marine service. The number of officers in the Company's service, on the Bengal establishment, amounted, in 1811, to 1571; occasioning an expense of £872,088 per annum. The number of resident Europeans in the Bengal presidency, out of the service, was computed, in 1810, at 2000.

The towns of Bengal are divided into different quarters, each of which is allotted to a different trade or nation. The Portuguese occupy one, the Mussulmans a second, the Hindoos a third; although this division, latterly, is but little observed. The houses, which are generally nothing more than huts with sloping roofs, resembling an inverted boat, are called *bangalâ*; whence the English bungalow, synonymous in India with the 'cottage.' The houses of the rich are merely a collection of huts within the same enclosure. Walls of mud, reed-hurdles, or split bamboos, a floor raised one or two feet from the ground, and occasionally a platform of bamboos at one end within, as a sleeping room and a place of retreat in times of inundation, constitute the whole of these habitations. The door, in general, is the only opening for the admission of light and air, few of their best constructed edifices having any thing like windows; and, instead of different apartments in the same house, separate huts are commonly constructed. In towns the houses are frequently of brick, and flat roofed, two stories high, consisting of a body and two wings enclosed by a high wall. In the upper story resides the family god, and the inhabitants in the apartments below. On each side of the court are verandas or open galleries, for the convenience of spectators on holidays, when religious ceremonies are performed. The apartments have scarcely any article of furniture except a loose mat, a few dishes for *pân* or betel-nut (piper betle), some utensils of brass, and a *hukkah* or spiral tobacco-pipe. An empty house, or shed, is the only accommodation which can be procured by the traveller; and to obtain this is frequently a work of considerable difficulty. As the religion of the Brahmins prescribes works of benevolence not for the good of men but for the gratification of the gods, any regard for public utility seldom enters into the mind of a devout Hindoo; who plants a grove, digs a tank, &c. regardless whether the trees afford a covering for tigers, or whether the tank be a public nuisance.

The districts into which Bengal is at present subdivided are Backergunge, Birbloom, Burd-

wan, Chittagong, Hooghly, Jessore, Mymun-singh, Moorshedabad, Nuddea, Purneah, Rajshy, Rungpoor, Silhet, Tipperah, the twenty-four pergunnahs, and Midnapoor, although this last belongs properly to Orissa. Calcutta is the capital, for which see CALCUTTA.

Before we proceed to the description of the above-mentioned districts, we will give an account of the maritime frontier called the Sunderbunds, Sunder-bans, (*sundara-vansa*, the beautiful wood), which is a woody tract of country stretching 130 miles along the Bay of Bengal, intersected by an intricate maze of streams and creeks, having eight magnificent openings which may be regarded as outlets of the Ganges. The shelving sides of all these streams clearly evince the alluvial origin of the low lands of Bengal. Two of the passages that intersect this beautiful region are navigable, viz. the southern or Sunderbund, the northern or Balliaghaut. The former of these, which is the widest and deepest, falls into the Hooghly river sixty-five miles below Calcutta. Its course is through a thick forest, affording an asylum to ferocious animals, in which, during the day, not a sound is heard except the call of birds and the chattering of monkeys. Alligators are often seen sleeping on its banks, and enormous tigers spring upon the traveller who ventures to intrude upon their solitary retreat. This widely extended wilderness is, with some trifling exceptions, the property of government, and may hereafter be a source of revenue. A survey was made of it in 1812—13, by captain Morrison of the Bengal engineers; and in 1814 a commissioner was appointed to examine the validity of all claims to lands in it, as also to assess those lands that had been brought into a state of cultivation. The salt of this region is esteemed holy, being manufactured from the mud of the Ganges.

Saugor island, Sagor island, (*Gangâ-sâgara*, i. e. the confluence of the Ganges and the ocean,) about twenty miles in length and five in breadth, is so intersected by creeks that its precise limits are difficult to define. It lies west of the channel creek, and the anchorage near it, being more open to the fresh sea breezes than Calpee or Diamond harbour, affords a better and more healthy situation for shipping. The island, from its situation at the very mouth of the Ganges, is thought by the Hindoos a place of peculiar sanctity; and, at the full moons of January and November, is rendered still more sacred by the sacrifice of human victims. Many of these are voluntary, consisting of aged persons weary of life, and infants devoted by their parents; who, in gratitude for their having been blest with five children, throw the fifth into the river. Some are, nevertheless, involuntary, and in one case a child, twelve years of age was forced by his parents a second time into the waves. The *Sâstras*, indeed, do not prescribe such sacrifices; but the vow, in compliance with which they are made, is thought inviolable. The island is inhabited by a few Gosains, (*Gôswamu*, religious mendicants) who levy contributions as the disciples of Capila, a sage, supposed to have lived 2000 years before the vulgar era. There are sufficient ruins upon the island to show that it was once numerously inhabited. In order to render this

spot subservient to the interests of government, the whole has been leased to a company, who are to hold the land rent free for thirty years, and afterwards at the annual assessment of four *ánas* per big'hat (about one shilling and ninepence per acre), for ever. The undertakers have subscribed 250,000 rupees (£31,250 of our money), and one fifth of the land was cleared before the commencement of April 1819.

Edmonstone's island, near the former, and almost equally remarkable, exhibits a striking instance of the manner in which the whole Delta of the Ganges has been formed. It lies in lat. $21^{\circ} 35' N.$, and long. $88^{\circ} 20' E.$ upon the very spot where the Sagor shoal appeared in former maps. It was nothing more than a sand-bank in 1813, not having emerged above the waves; but in 1818 formed itself into a distinct island east and west; two miles in length by half a mile in breadth; and, from the decreasing depth of the channel between it and Sagor, it is highly probable that before any very considerable lapse of time the two islands will be united. At the period before alluded to, vegetation had already commenced in the central and most elevated parts of the surface. *Salsolas* and *Ipomæa pes capræ* had given it a verdant coloring; and, by daily binding the drifting sand, were contributing to form the basis of a fertile soil.

1. The district of Backergunge: it was formed about the year 1800, from the southern quarter of the Dacca Jelalpoore district. A part of this division called Boklah, in the time of Acber, now Ismaelpoor, extends chiefly along the western bank of the Puddah, or Great Ganges, nearly to its mouth at the island of Rabnabad, which forms the south-east angle of the Bengal Delta; the west of Midgellee being the other. In 1584 the whole of this region was overwhelmed by an inundation; and from the succeeding ravages of the Mughls, aided by the Portuguese, who inhabited Chittagong, it continues to the present time in a state of great depopulation. From its vicinity to the Sunderbunds it is intersected by numerous rivers, and mantled by a covering of jungle. It is also infested with enormous tigers and alligators, together with numerous gangs of dacoits or robbers. The remains of several Portuguese colonies, planted two centuries ago, still exist, and exhibit a melancholy proof of the extreme degradation to which it is possible for Europeans to descend. They are a meagre, imbecile, puny race, blacker than the natives, and held in universal contempt.

Backergunge, the capital of the above district and residence of the judge and magistrate, is situated 120 miles from Calcutta in lat. $22^{\circ} 42' N.$, and long. $89^{\circ} 20' E.$

Ravan-ábád and Dak'hin-sháh-báz-púr are islands, of which the latter, at the junction of the Megna with the sea, is about thirty miles long and thirteen broad. It contains excellent salt-works, but is almost inundated during the rainy season. The navigation of the neighbouring channels is rendered dangerous by the bore, or overwhelming rush of the tide.

2. Birboom, or Bérb'húm (Virabtrumi, the Land of Heroes), is bounded on the north by Monghir and Rajemal, on the south by Burdwan and Pachute, on the east by Rajeshly, and on

the west by Monghir and Pachete. In the Ayin Acbari it is called the Sercár of Madarún, and in 1784 its superficial extent comprehended 3858 square miles. The greater part is rocky, woody, and uncultivated; but is now rising in prosperity and importance. Coals and excellent iron ore are found in the hills; but the iron-works established in 1814, at the Moa and Húglí river, have not succeeded. The chief navigable river is the Adjí, and the chief towns Surool, Sooro, and Nagore. The roads and bridges are kept in good repair, and the latter are formed of the palmeira (elate sylvestris). Birboom is the largest Mahomedan zemindary in Bengal, and in the time of Shér Sháh, the Afghan, was conferred on Assud Ullah, father of Budder ul Zemaun, of the Afghan or Patan tribe, the better to enable him to protect the western frontiers from the incursions of the barbarous Hindoos of Jeharcund. This grant anciently resembled the ancient military fiefs of Europe, but was resumed, in 1763, by Cossim Ali Khan. In Baidyanauth, or Desghur, is a celebrated temple, containing an illustrious lingam, or phallus, round which the pilgrims make many circuits, washing it with libations of holy water, in order to procure favorable dreams. So celebrated is this place of pious resort, that, notwithstanding the great danger there is of being murdered on the road, no fewer than 6000 devout persons from Bahar alone are said to visit it annually. The population of Birboom, as taken by marquis Wellesley, in 1801, amounted to 700,000 persons.

3. Burdwan (in Sanscrit Vardhaman, productive), is bounded on the north by Birboom and Rajeshly, on the south by Midnapoor and Hooghly, on the east by the Hooghly river, on the west by Midnapoor and Pachete; and is situated between the twenty-second and twenty-fourth degrees of north latitude. It came into our possession in 1760, and may be considered the most fertile territory in India. Environed as it is by the jungles of Midnapoor, in Orissa, of Pachete and Birboom, it appears like a garden surrounded by a wilderness. This district, in 1784, contained, according to major Rennel's measurement, 5174 square miles, although the original zemindary did not exceed 3280. Subsequently to 1722 it was conferred on Keerut Chund, the first known primogenitor of the present family, and, in 1790, the existing rajah paid to government a yearly rent of £400,000 sterling. The chief towns are Burdwan, Bissunpoor, and Keerpay; the principal rivers the Hooghly and Dummoodah. Villages are numerous, and most of them have schools, but there are no colleges for teaching the Mahomedan or Hindoo law. The population is supposed to be about 2,000,000, of whom one-sixteenth are Mahomedans. The remains of several forts are visible, supposed to have been originally constructed as a defence against the Mahrattas. Cutwa, in lat. $23^{\circ} 37' N.$, and long. $88^{\circ} 10' E.$, is celebrated as the place near which took place the well-known engagement between our troops and those of Cossim Ali in 1763.

The only rajahs possessing rank are those of Burdwan and Bissunpoor, both of whom now maintain so few followers in their service, that

when they appear abroad for purposes of state or ceremony, they are obliged to hire a retinue, although before the establishment of the present system, the number of persons called zemindary pykes, employed for police and other purposes, was upwards of 21,000.

4. Chittagong (Chaturgrama, or as some Gáóng Orgám), lies at the south-eastern extremity of the province, between the twenty-first and twenty-third degrees of latitude, and is bounded on the north by Tipperah district, south by Aracan, east by the Birman empire, and west by the sea; its entire superficies comprehending an extent of territory 120 miles in length, by 25 its average breadth. This district contains about 2987 square miles of unproductive hills and plains; arable land nearly in the proportion of two to one, and was divided formerly into four large and 140 small pergunnahs, partitioned among 1400 landholders. The original grant of this district, like the former, resembled a military fief, and was superseded by a division into distinct zemindaries, when the protection of the frontier ceased to require a military establishment. The principal river cannot admit ships of any size, and, at a considerable distance beyond the limits of the harbour, there are bars in the mouths of all streams which flow into the sea between that river and the boundary of Aracan. The southern part of this district, towards the Nauf river, which forms the line of separation between the British and Birman territories, is mountainous, and had been considered as almost incapable of cultivation till 1814, when enquiries, occasioned by the great emigrations from the neighbouring countries, evinced that between the ranges of hills are numerous plains and valleys, susceptible of improvement, as those of Chacária, Ramú, and Gargánit, the last of which is estimated at ten miles each way. A large number of emigrating Mugh's have settled on the borders of the British territory; some under the character of husbandmen, others as pedlars or mechanics. The natural features of the interior are mountains, and beds of torrents, which roll forward to the sea. Both the inland waters and those of the ocean are continually encroaching on the labors of the cultivator. Its frequent change of level, maritime position, and lofty altitude, confer upon this region peculiar advantages, and render it highly proper for the production of coffee, pepper, spices, and many other valuable productions of Asia.

Islamabad (the Abode of the True Faith), the present capital of this district, is extremely well situated for maritime commerce, ship-building, &c. The Company have likewise an extensive establishment on the coast for the manufacture of salt. A considerable profit is derived from the elephants taken in the forests by the natives, who engage to provide a certain number annually. The sea air and bathing on this coast are considered extremely beneficial, for which reason it is much resorted to by Europeans.

About twenty miles north of Islamabad, is a remarkable hot well, named Sectacond, the surface of which, as it emits inflammable air, is capable of being ignited by the application of fire. This, like all other natural phenomena, is

esteemed sacred among the Hindoos, as is also another hot spring in the vicinity of Monghair.

Chittagong, it is probable, belonged originally to the extensive and independent kingdom of Tipperah; but, being a frontier province, where the two religions of Brahma and Buddha met, it was the subject of endless litigation, and was sometimes governed by the sectaries of one doctrine, and sometimes by those of the other. It is supposed to have been subdued in the beginning of the sixteenth century, by the Afghan sovereigns of Bengal, but afterwards, during the wars of the Moguls and Afghans, reverting to the Buddhists, fell into the possession of the rajah of Aracan. In the beginning of the seventeenth century it was visited by the Portuguese, who, co-operating with the rajah, greatly depopulated the south-eastern quarters of Bengal. In 1638, during the reign of the emperor Shah Jehan, Makat Ray, one of the Mugg chiefs, who held Chittagong for the rajah of Aracan, having incurred his master's displeasure, sought the protection of the Mogul sovereign, which led to the acquisition of this province by the Mogul government. In 1666 Shayistah Khan, the soubahdar of Bengal, having equipped a powerful fleet at Dacca, despatched it down the Megna, under the command of Onaid Khan, who, having previously conquered the island of Sundeeep, proceeded against this province and laid siege to the capital, which, though strongly fortified, and containing, according to the Mogul's historians, 1223 pieces of cannon, was speedily taken, and its present name conferred on it.

This province at an early period attracted the notice of the East India Company, who, in 1686, proposed to remove their factory from Hooghly to this station, and establish by force a fortified residence. In 1760 it was ceded to that body by the nabob Jaffier Ali Khan. The population of this district, as taken in 1801, under the direction of the marquis Wellesley, amounted to 1,200,000 souls. The capital, in lat. 22° 22' N. and long. 91° 42' E., was a great emporium in the time of Acbar.

Coxe's bazaar, at the mouth of the river Nauf, occupying an elevated open site at the termination of a range of lofty cliffs, is clear of wood, and has excellent water. In 1816 it was honored by the erection of a custom-house on the Aracan frontier.

Sun-deep, or Sun-dip (the Island of the Moon), is at the mouth of the Megna, a broad stream formed by the united waters of the Ganges and Bráhmápootra. Its soil is alluvial, and its superficial extent about sixteen miles by eight. It was possessed in the beginning of the seventeenth century by Portuguese pirates, under Sebastian Gonzales; which individual, after reigning a few years, was expelled by the rajah of Aracan, who, in 1666, was also expelled by the fleet of Shayistah Khan, when the country became subject to the Mogul. Salt seems at present to be the article of manufacture.

The hilly tracts of this district are chiefly inhabited by the Chumíás and the Cúkies, or Lunetás. The Chumíás, a migratory people, seldom remaining more than two years in one place, occupy the lower range of hills to the north and east, and are subject to the Bengal government.

The Cúkies, in appearance resembling the Tartars, inhabit the more distant and elevated ranges. They are hunters and warriors, divided into many independent tribes; are much given to theft, and live mostly on animal food. The Hindoo distinctions of caste are not known.

5. Hooghly district, situated principally between the twenty-second and twenty-third degrees of latitude, and extending along both sides of the river of the same name, is bounded on the north by Burdwan and Kishenagur, south by the sea, on the east by Jessore and the Sunderbunds, and on the west by Midnapoor. The land is low, flat, and fertile, and the part bordering upon the sea, overgrown with jungle, is extremely unhealthy; its inland navigation is excellent, the surface being intersected on all sides with rivers and their branches. Three-fourths of this division remain in a state of nature, and are the abode of tigers, alligators, with numerous other species of vermin and reptiles.

The town of Hooghly, situated on the west of the river of that name, in lat. $22^{\circ} 54' N.$ and long. $88^{\circ} 28' E.$, was formerly the Bunder, or great sea-port of this part of India, and the place where the Mogul's duties were collected. The French, Portuguese, and Danes, had factories here, and were subsequently permitted to possess each a town, comprehended however, within ten miles extent along the river. Abul Fazel, in 1582, describes it as follows: 'There are two emporiums, about a mile distant from each other, one called Stagong, the other Hooghly, and its dependencies, both of which are in the possession of the Europeans.' The name of Hooghly is not mentioned in Faria de Souza's History of Bengal, where it is named Golin.

In 1625 the Dutch, and in 1640 the English, were permitted to build factories here, but the trade was exposed to continual exactions. The first serious quarrel between the Moguls and Europeans happened at Hooghly, in 1632, when it belonged to the Portuguese. The Moguls with a strong army besieged it for three months, during which period the Portuguese made many offers of submission. All terms were, however, rejected by the besiegers, who having sprung a mine, carried the place by assault, and commenced a most dreadful slaughter of the Portuguese. For the latter there seemed no escape; many who attempted to reach their boats were drowned, and those few who gained their ships in safety were immediately attacked on all sides. The captain of the largest vessel, having on board no fewer than 2000 men, women, and children, with all their wealth, rather than fall into the hands of the Mahomedans, blew up his ship, and many others followed the example; till, of sixty-four large vessels, fifty-seven grabs, and 200 sloops anchored opposite the town, only one grab and two sloops remained. In 1686 the English were involved in hostilities by the imprudence of three of their soldiers, who quarrelled with some of the nabob's peons. The action that followed was the first ever fought by the English in Bengal, and ended in the defeat of the nabob's troops. A disadvantageous peace was nevertheless shortly made, and the English, thinking themselves insecure in Hooghly, which

was an open town, removed to Chatá-nati, or Calcutta. Hijeli, or Hijala, west of the river, in lat. $21^{\circ} 50' N.$ and long. $88^{\circ} 10' E.$, consists of salt and redeemed marsh land, close to the mouth of the river. It was formerly the capital of a fanjdári, or military station, in the súbah or province of Orisah, but in the reign of Sháh Jehán was annexed to Bengal.

Culpee, in lat. $22^{\circ} 6' N.$, and long. $88^{\circ} 25' E.$, situated on a creek near the east bank of the river, is surrounded by wood, and very unhealthy. Kedgere, or Kijari, in lat. $20^{\circ} 55' N.$, and long. $88^{\circ} 16' E.$, lies at the mouth of the river, where it is nine miles in width. Ships of war generally anchor here, the air being much more salubrious than Diamond Harbour, where the Company's ships unload, and take in the greater part of their homeward cargoes. Statgong (the seven villages), was anciently a place of considerable note, though now sunk in comparative insignificance. It is situated on a creek, a little to the north-west of Hooghly, and in the middle of the sixteenth century small vessels were not able to approach. Fulta, in lat. $22^{\circ} 19' N.$, and long. $88^{\circ} 20' E.$, on the east bank of the river, is a village near which ships find safe anchorage, and are protected from the swell.

Barrackpoor, about sixteen miles above Calcutta, has a park with a small menagerie, and is the station where the native corps, amounting to 4000 men, are in cantonment. An institution is established here for the instruction of cadets in the artillery and engineer corps; and, in the cold season, horse races are practised, under the patronage of the military.

Chander-nagar (in Sanscrit, Chandra-nagara), is a French settlement, advantageously situated west of the river Hooghly, and contained, in 1814, 41,377 inhabitants.

Chinsurah, Chinchura, better known by the name of Hoogli, being situated near the suburbs of that anciently renowned city, is the principal Dutch factory in this part of India, and was established in 1656. The Dutch have no other possessions there, except their fort; the territory round it depending on the government of the country. One inconvenience attending this settlement is a sand-bank, that prevents ships from coming up nearer to it than Tulta, about twenty miles below Calcutta; occasioning of course an additional expense to the government. A school established in this place by Mr. May, for the instruction of native children, had on its list, in 1814, upwards of 1080 scholars. Reading, writing, and arithmetic, are taught to all; and English, as a reward to the most deserving.

The Portuguese formerly made Bandel, which is eighty leagues from the mouth of the Ganges, and a quarter of a league above the Hooghly, the principal seat of their commerce. Their flag is still displayed, and there are a few unhappy wretches remaining there, who have forgotten their country after having been forgotten by it. This factory has no other employment than that of supplying the Moors and the Dutch with mistresses.

Serampore, a Danish settlement, is situated on the west side of the Hooghly river, about twelve miles above Calcutta. It extends about a

mile along the river, but is very narrow, and has no fortifications. It is the head quarters of the Baptist missionaries.

6. Jessore (Jasar, the Bridge), situated between the 22nd and 24th degrees of north latitude, is bounded north by the Ganges, south by the sea, east by Kishenagur, and west by Dacca, Backergunge, and Jelalpoor. The southern part of this district, in the Sunderbunds, formed by alluvion, and the successive changes of the channels of the Ganges, is extremely fertile, though at the same time low, flat, and unhealthy. Its productions are numerous and valuable, of which indigo is the most important. A great proportion of the southern tract is covered with jungle, and inhabited by pirates and salt makers. The zemindary of Jessore was originally named Yusefpoor, in the revenue books, and early in the eighteenth century was conferred by Jaffier Khan on Kishenram, a Khaist from Orissa. The chief towns are Jessore, or Moorly, Mahmudpoor, and Culna; and the population, as taken in 1801, amounted to 1,200,000, in the proportion of nine Mahomedans to seven Hindoos.

7. Mymun Singh, situated principally between the 24th and 25th degrees of north latitude, is bounded on the north by the Garrow Mountains and the district of Rungpoor, on the south by Dacca Jelalpoor, on the east by Silhet and Tipperah, and on the west by Rajsheshy and Dinagepoor. This district is of more recent formation than the adjacent ones, on which account it underwent no separate mensuration in 1784. It is low, flat, and fertile, and, since the perpetuation of the decennial settlement, is much improved. It is intersected by the great river Brahmapootra, into which flow innumerable tributary streams, and during the height of the rains the whole face of the country is nearly submerged. The chief town, Bygonbary, on the west side of the great river, in lat. $24^{\circ} 46' N.$, and long. $90^{\circ} E.$, is the residence of the judge and collector, subordinate to the Dacca court of circuit; and the population, in 1801, amounted to 600,000, in equal proportions of Hindoos and Mahomedans. Siraj-ganj on the J' hináyí, near the confluence of that river and the Cónáyí, is perhaps, next to Calcutta, the greatest mart in the whole province, although not to be found in any map.

8. Moorshedabad was formerly included in the Rajsheshy, but has lately passed among the moderns as a separate division. Its boundaries are very difficult to define, but it may generally be considered as having the Ganges and Jellingi rivers to the north and east, Nediya to the south, and Birboom to the west. In 1813 it was considered as the worst regulated of any part of the province; in consequence of which an assistant magistrate was appointed to reside within its capital. It is remarkable, that whereas this part of the province was formerly considered as particularly healthy, it is now extremely the reverse.

Moorshedabad, the capital, seated on the most sacred branch of the Ganges, was originally called Muckhsosabad till 1704, when Moorshed Cootee Khan transferred to this place the seat of government, and conferred the present name. It stretches eight miles in length, cover-

ing both sides of the Bhagiratty or Cossimbazar River, about 120 miles above Calcutta. The streets and buildings are bad, as is the case in most Indian towns; but the transit commerce is very great, and the river, with the exception of one interval in the year, is covered with boats of all sizes. From the month of October to May, when the river is nearly dry, much of the commerce is removed to B'hagwán Góla, a port on the parent stream of the Ganges. A canal between the two streams, formed in 1813, has been of great service; but the unhealthiness of the place, which, in 1814, almost exceeded belief, has caused the population visibly to decline. The Mootyjeel, or Pearl Lake, in this neighbourhood, is one of the windings of a former channel of the Cossimbazar River, and in the reign of Ali Verdy Khan, was dignified with a palace ornamented with columns of black marble from the ruins of Gour, the ancient capital of Bengal. A considerable part of the town is protected from inundation solely by the Bulabeg pushtah, or projecting embankment, which every year occasions great expense to the government. Gang robbery, or dacoity, is common; and the charges for the city police, in 1814, were estimated at the annual expense of 36,000 rupees, (£4500).

When the seat of government was removed from Dacca, by the Nabob Jaffier Khan, Moorshedabad became the metropolis, and continued so till the conquest of the province by the British, in 1757, when it was virtually superseded by Calcutta. It remained, however, from its central situation, the seat of the collector-general of the board of revenue till 1771. At present, besides being the residence of the native prince, Moorshedabad is the head quarters of a court of circuit, including the following subordinate districts: viz. 1. Monghir, or Boglipoor; 2. Purneah; 3. Dinagepoor; 4. Rungpoor; 5. Rajsheshy; 6. Birboom; and 7. Moorshedabad. The population, in 1801, was estimated at 1,020,572, in the proportion of one Mahomedan to three Hindoos.

9. Nuddea (Nara-dwipa, the new island), situated between the 22nd and 24th degrees of north latitude, is bounded on the north by Rajsheshy, on the south by Hooghly and the Sunderbunds, on the east by Jessore, and on the west by the Hooghly river. It was anciently called Oukerah, and more recently Kishenagur, from the zemindar who held it. Its soil is peculiarly fertile in all the dearer productions of Indian growth, but so light as to require a fallow for three successive years. Jasarush (from which a red dye is extracted), and pipal (piper longum), are grown here in great perfection. Cultivation has greatly increased since the decennial settlement. The inland navigation spreads itself through every part of the district; but the necessary embankments are difficult of formation, owing to the extreme lightness of the soil. In 1784, according to the mensuration taken by Major Rennell, this district comprehended 3115 square miles, and in 1801 contained a population of 764,000, in the proportion of two Mahomedans to seven Hindoos. The chief towns are Nuddea, Kishenagur, and Santipoor.

Nuddea, at the confluence of the Jellinghy and Cossimbazar rivers with the Hooghly, in lat. $23^{\circ} 25' N.$, and long. $88^{\circ} 24' E.$, was the capital of a Hindoo principality, previous to the Mogul conquest of Hindostan; but, on the invasion of Mahomet Bukhtyar Khiljee in 1204, was taken and entirely destroyed. It was afterwards distinguished as a school for Hindoo learning, and upon the decline of that Brahminical seminary, during Lord Minto's administration, a sum of 13,000 rupees (£1600), was assigned for its support.

Chogdah, east of the Hooghly river, thirty-four miles north of Calcutta, is celebrated as the place where the Hindoos used formerly to drown themselves in the holy stream: it is said they are now satisfied with the mere ceremony of immersion.

Palási, or Plassey, is the place near which Lord Clive, with an army of 3000 men, of whom 900 only were Europeans, completely routed the Nabob with no fewer than 50,000 troops, by which victory he acquired the possession of Bengal.

Agha-deep, Agá-dip, or Agra-dwipa, is a place of pilgrimage where the Hindoos resort, on account of the supposed image of Crishna, and brings a revenue to its proprietor of £300 per annum. It was seized by the late Rājā Nob Kishn (Nava Crishna), for a debt, but was recovered by a law suit.

10. Purneah (Purinya), situated about the 26th degree of north latitude, is bounded on the north by the Morung hills, in the Nepal territories, on the south by Monghir and Rajemall, on the east by Dinagepoor, and on the west by Tirhoot and Bogliipoor. Abul Fazel, in 1582, describes it as follows: 'Sircar Poorneah, containing nine mahals; revenue, 6,408,793 dams. This Sircar furnishes 100 cavalry, and 5000 infantry.' This district, comprehending 5119 square miles, is a compact, well-watered flat, diversified with a few hillocks; in the north-eastern angle, in the region contiguous to the Mahanadā, and near Manihari, not far from the Ganges, is a calcareous stone, the only rock in the whole district. The soil, though in some places light and sandy, is in general fertile, producing opium, fir-masts, and other valuable timber, together with the common productions of India. The northern part is covered with immense woods, and very thinly inhabited. Numerous shallow lakes and morasses are formed in deserted beds of rivers, and almost all the streams have changed their courses since the date of the Bengal atlas drawn up by Major Rennell; the high lands are, nevertheless, most productive. The rains do not last so long, neither are the heats so scorching, in this district, as they are further east and south, by which means the climate is rendered more healthy and salubrious. The prevailing winds are south during the rainy season, but north in the winter, and the frost exceedingly severe. Potatoes were introduced here by Mr. Smith, of Nát'h-púr, and had come into general use among the natives before 1810. The cattle of this district are excellent; butter made from buffaloes' milk is clarified, and exported under the name of G'hí. The Saul timber, with several other species, from the woods on the Mo-

run boundary, is floated in the rainy season down to Calcutta. The chief rivers are the Cossab, and Mahanada; the chief towns, Purneah, Tanjeeper, &c. The population, as taken in 1801, amounted to 1,450,000, in the proportion of seven Mahommedans to ten Hindoos.

During the Mahommedan government, this was a frontier military province, under the rule of a fonzdar, subordinate to the soubahdar, or viceroy; possessing, nevertheless, a considerable share of independence. Of these provincial governors Syef Khan is the most remarkable, who ruled until his death in 1759, when he was succeeded by Soulet Jung; on whose death the government was usurped by Shouket Jung, or Khadim Hossein Khan. This rebellion was quelled in 1763, by Cossim Ali Khan, the nabob of Bengal. In 1765 Purneah devolved with the rest of the dēwání (stewardship) to Lord Clive.

Purneah, or Púrnyá, the capital of the above district, lies in lat. $25^{\circ} 45' N.$, and long. $88^{\circ} 23' E.$ 124 miles north-west by north from Moorshedabad. It is rather a crowd of villages than a town, and is of late extremely unhealthy. The best part of it is east of the Sáongri river, and consists of one wide street, opposite to which is Rám-bagh, a dry sandy plain, on which are erected the houses of the Europeans, courts of justice, &c. Nát'h-púr is situated in lat. $26^{\circ} 17' N.$, and long. $87^{\circ} 3' E.$, on the bank of the Cósí, in the wet season, but some miles distant after the water has retired.

11. Rajshy (Rajshahi), situated principally between the twenty-fourth and twenty-fifth degrees of latitude, is bounded on the north by Dinagepoor and Mymensingh, on the south by Birboom and Kishenagur, on the east by Dacca, Jelaldoor, and Mymensing, and on the west by Monghir and Birboom. It is traversed by the Ganges, and its innumerable arms, by the overflowing of which, from July to November, it is almost entirely submerged. The tract, peculiarly liable to inundation, was anciently called Varéndra. About Hariyal the country is woody and wild. The shallow lakes, or j'híls, are protected by a guard-boat, under the command of a jemádar, or corporal; but since the decennial settlement the improvement is considerable. Within the limits of this province are produced four-fifths of all the raw or manufactured silk used or exported from Hindostan. Numerous commercial towns and populous cities, are also contained in it, from which the manufactures are supplied.

The zemindary in 1784, according to Major Rennell's measurement, contained 12,909 square miles, and yielded a revenue of twenty-four lacks of rupees. The population, in 1801, amounted to 1,500,000, in the proportion of three Mahommedans to five Hindoos. The chief towns are Commercolly, Nathor, the residence of the judge and magistrate, Bália, &c.

Rāj-mahal (the King's palace), anciently called Acbar-nagar, and Cánc-jól, though belonging to Bengal, is now attached to Bahár. It lies on the south-west bank of the Ganges, and was formerly the seat of an important military government, established on the confines of the two

provinces, for the purposes of securing the passes, especially that of Telia-gâr-hî.

Tellia-gurry, or gully, in lat. $25^{\circ} 2' N.$, long. $87^{\circ} 43' E.$, was originally called Ag-mahal, and exchanged into Râj-mahal by Mân-sing'h, who, in the reign of Acbar, made it the capital of Bengal. Sultân Shujââ, the brother of Âurang-zêb, made it the metropolis of Bengal and Bahar, for which its situation is extremely well adapted. The ruins of his magnificent palace, called Sangi-dâlân, are still visible, and the tomb of Mirair, the son of Jâfer Ali, is kept in good repair.

Sicly-gully, or Sâncrî-gâlî (the narrow pass), one of the most celebrated defiles in Hindostan, is about eight miles north by west from Râj-mahal, and forms the boundary between Bengal and Bahar. It is not, as was supposed, the only pass by which the former of these provinces is accessible, since the Mahrattas, in 1742, invaded it from another quarter.

Oudanulla, a small town in lat. $24^{\circ} 56' N.$, and long. $87^{\circ} 52' E.$, although 300 miles distant from the sea, is the nearest place where any thing so coarse as gravel can be found in the bed of the Ganges. It is also distinguished by the extensive lines formed in 1764, by Kâsim Ali, and forced by major Adams. Few traces of them now remain.

12. Rungpoor (Rungapura), situated in the north-eastern extremity of the province, about the twentieth degree of latitude, is bounded on the north by the Bootan hills, on the south by the Mymensing, on the east by the Brahmapootra, and on the west by Dinagepoor. Separated from Cooch Bahar by the river Durlah, it is an extremely irregular district, the boundaries of which, being ill defended, are exposed to continual incursions from the neighbouring states. The river Cârâtôyâ, which divides this district from Dinag-pûr, is continually shifting its course, as are most of the other streams by which it is traversed. To the north-east are several lakes, the largest of which lies five miles north of Jugig'hôpa, and on the eastern side is a red soil, called Ranga-nati, covered with stately forests, overgrown with plants of an extraordinary size. East of the Brahmapootra and Chon-cosh, is a considerable extent of hilly country, surrounded on all sides by low lands. The heat is more moderate than in the western regions of the province; and the cocoa-nut, which has been supposed to require the proximity of the sea, flourishes at Gôâl-parah, 250 miles from the nearest coast. The face of the country is open, flat, and well-watered; the soil fertile. The chief rivers are the Teesta, Durlah, and Brahmapootra. The chief towns are Rungpoor, Munguliant, and Guzgotta.

In this district the inhabitants, having no mills, dress their wheat like rice, and all the gear necessary for carrying on a small farm of one plough may be bought for seven shillings. Rhinoceroses, elephants, and black bears, are found in the forests. The frontiers, bordering on Môrung and Bûtân, are inhabited by wand-ring tribes of mountaineers, called Kichacs, or Gidar-mars, who live by robbing and plundering. The natives, in general, are unhealthy, and numbers

die in their infancy. Prostitution is extremely common, and is carried on by a regularly organised society, which is the less surprising as the country forms a part of Camarûpa, the Paphian empire of the Hindoos. In 295 houses were found 460 women from twelve to twenty-five years of age, besides a number of others more advanced in years, who, together with several men and boys, the offspring of this abandoned community, acted in the capacity of servants. These women, though they affect the manners of the Hindoos, are of Mahommedan origin, and may be adduced, in the face of our modern infidels, as another proof of the superior morality of the Mahommedan code. The Mussulmans of this district, when in distress, frequently address their prayers to the saints and deities of their idolatrous neighbours.

Rangpoor, or Rungpoor, under the Mogul government, was a military station, on the frontier, towards the Moring and Cooch Bahar, and was first partially wrested from the rajah of the latter district in the reign of Shah Jehan, when it was formed into a circar. It was afterwards completely conquered by the generals of Aurungzebe in 1660-1, when it received the name of Fakercoondy; and, with the pergunnah of Koonddy, formed the modern district of Rungpoor, comprehending a territory of 2679 square miles, distributed into several zemindaries. Within the jurisdiction of this district may be included that of Ranganamatty, and the adjoining rajahship of Cooch Bahar, comprising in all the dimensions of its financial divisions 6610 square miles. In 1765 it fell, with the rest of the province, into the possession of the English, since which it has been progressively advancing in the scale of improvement. The ruins of Comotâpur, and the city of Prit'hî Raj, in the division of Sanyasi-gôta, show what the splendor of this country must have been when in the zenith of its glory. The air, it is said, is not extremely salubrious; and glandular swellings in the throat are frequent among the inhabitants.

Rungpoor, in lat. $25^{\circ} 43' N.$, long. $89^{\circ} 22' E.$, is rather an assemblage of four distinct villages than a town. It is frequently named as the capital of Assam, but is in reality only the military station to the real capital Gergonge. A considerable number of towns form a circle round the Rungpoor division, which is twelve miles in length by ten in breadth. There are few public buildings of brick, as temples, mosques, &c., and the Europeans reside at D'hâp, near an excellent road, shaded with trees. West of Rungpoor is a bridge, built in the reign of Roodra Singh, by workmen from Bengal, which may be deemed the western gate of the military fortress. The protection on the south is an immense causeway, or line of fortification, extending from Namdaugh to the Dhekow.

Chilmarry, or Chilmâri, is a place of great resort, particularly on account of a neighbouring sand-bank, called Vârum chûr, a place of pilgrimage to the Hindoos. Near Ranga-nati, or Rungamutty, is the great forest of Pârhat Joyâr.

Gôalpara, (Gôâl-pâra), on the south side of the Brahmapootra, in lat. $26^{\circ} 8' N.$, and long. $90^{\circ} 33' E.$, is the principal mart for the people

of Assam, who come hither to barter coarse cloths, sticklac, tar, wax, and gold, for salt. There is a considerable fishery at the beautiful lakes called Toborong, north of Jugih'hopa, where 1400 maunds (112,000 pounds), are annually taken and dried; one-half of which quantity goes as tribute to the raja of Bijni. Near the village of Tocar is a very remarkable hill, formed of one vast mass of granite.

13. Silhet (Srihata, a rich market), situated between the twenty-fourth and twenty-fifth degrees of latitude; is bounded on the north and east by a lofty ridge of mountains, inhabited by several wild tribes; on the south by Tipperah and Mymensingh, and on the west by Mymensingh. The mountains which form the boundary of this district rise with peculiar abruptness from the plains on the western side, and are probably branches of the great chain of Himalaya, stretching in a south-easterly direction, through Chátigang and Aracan, to the Indian Ocean. The mountainous scenery of this district is very striking and delightful, when contrasted with the flat landscapes of Bengal. Conical hills, rising at intervals, form one broad basis, clothed to their summits with the charms of freshness and verdure; and lofty mountains, in the directions before described, rising like a wall to an extraordinary height, are objects which delightfully break and diversify the prospects in many parts of this interesting region: 350 miles from these mountains, to the east, lies the province of Yun-nan, in the Chinese empire; and the intervening space consists of wild and rugged land, at present imperfectly explored. In 1784 Silhet contained 2861 square miles, of which the revenue was only 233,924 rupees. It forms the most easterly part of the Company's possessions in Hindostan, and, in 1582, was described by Abul Fazel as follows: 'Sircar Silhet, containing eight mahals, revenue 6,681,621 dams. This sircar furnishes 1100 cavalry, 190 elephants, and 42,920 infantry. Sircar Silhet is very mountainous. It furnishes many eunuch slaves for the seraglio.' During the rains the greater proportion of the land is laid under water by the overflowing of the Soormah and other rivers. When the floods are at their greatest height there is more than ten feet of water, in the midst of which the elevated sites of villages appear like islands. After the waters have drained off, the land is in excellent condition for the cultivation of rice. Food is remarkably cheap, the average price of rice being four or five maunds per rupee. In 1801 grain in the husk sold for fifteen rupees the 100 maunds, or rather less than a quarter of a farthing per pound, and wages were proportionably low. Limes and oranges are cheap, and of superior quality; the latter are grown in plantations, which, from their extent, might be called forests, and are sold on the spot 1000 for a rupee. It is very remarkable that in all our territories in Hindostan, there are only three places where excellent oranges are produced; viz. Sát-garh, near Madras and Bangalore; Cháud-púr, near D'haca, where they are delicious; and Silhet where they are little inferior. The hills in these places abound in limestone, which is perhaps the reason why the

soil is so favorable to the growth of the orange. Chunam (i. e. Chunah Lime), wax, ivory, and other articles, are procured from the K'hasias (Cosseahs), natives of the hills eastward. Aguru, (fragrant Aloe-wood, the Agallochum of the ancients, or Excecaria Agallocha), and wild silk, are also articles of commerce. From the cheapness of the necessities of life there is little occasion for gold and silver coin; a more minute subdivision of value being required. The rents are paid in cowries, which have become the medium of commercial transactions generally. The chief towns are Silhet, the capital, Azmerigunge, Láúr, &c. The Soorma and Megna are the principal rivers, and the population of this district, in 1801, amounted to 492,495 inhabitants, in the proportion of two Mahommedans to three Hindoos. Slavery, and the sale of children by their parents, appear to have existed amongst the people from time immemorial.

Under the Mogul government, Silhet was formed into a foudjardary, or military station. Its actual dimensions, since the dismemberment of several pergunnahs, are computed at 2861 miles, and divided into 146 small pergunnahs, held by about the same number of zemindars.

14. Tipperah, situated principally between the 22nd and 24th degrees of north latitude, is bounded on the north by Silhet and Dacca, on the south by Chittagong and the sea, on the east by the hills and deep forests, which separate it from the Birman dominions, and on the west by the great river Megna, and the district of Dacca Jela'poor. It was described by Abul Fazel, in 1582, as follows: 'Bordering upon Bhatty is a very extensive country, subject to the chief of Tipperah, him they style Yeyah Manick. Whoever is possessed of the rajahship bears the title of Manick, and all the nobility are called Nar-rain. Their military force consists of 1000 elephants and 200,000 infantry, but they have few or no cavalry.' This district is also named Roshenabad, and forms the chief eastern boundary of the province. In 1784 it was estimated to comprehend 6618 square miles, since which period various lands have been added. Its eastern limits are not yet accurately defined, being extremely wild, clothed with extensive forests, and abounding with elephants, &c. The gayal (a species of ox), is also found in a wild state. The region about the Megna, from Daond Caundy to Luckipoor, is rich and fertile. It is celebrated for the production of the betel-nut, which is held in so great estimation among the Birmans and Arracaners, that they come annually and buy it nearly all up for ready money, after which they form contracts for the succeeding year. The cotton goods of this district, baftaes and cossaes, are celebrated all over the world. The elephants are numerous, but inferior to those of Chittagong and Pegu. The height of this animal has been greatly exaggerated. In India that of females is commonly from seven to eight feet, and that of males from eight to ten, measured at the shoulder as horses are. The largest ever known with certainty, belonged to Asoph ud Dowlah, the nabob of Oude, of which animal the perpendicular height at the shoulder was ten feet six inches. One belonging to the

nabob of Dacca measured ten feet. The height required by the government, for elephants employed in their service, is nine feet.

Tipperah appears to have been the seat of an independent Hindoo principality, for many centuries after the Mahomedan conquest of the rest of Bengal; although its limits were probably at that period more contracted. The Mahomedan historians call it the country of Jagenagur. In 1279 it was invaded by Toghril, the Patan governor of Bengal, who plundered the inhabitants, and brought away 100 elephants. In 1343 it was invaded by Ilyas, the second independent sovereign of the province, who carried off a great quantity of plunder. For many succeeding years the state nevertheless preserved its independence, but was at last brought into subjection in 1733, when a nephew of the Tipperah rajah's fled to Dacca, and procured for his assistance an army of men under the command of Meer Hubeib Oolah, who put him in possession of the government, on condition of paying a large annual tribute; so that the whole province became virtually a part of the Mogul empire (itself at that time on the eve of dissolution), and changed its ancient name for that of Roushenabad. It came into our possession, with the rest of Bengal, in 1765; and in 1801 was estimated to contain 750,000 population, in the proportion of three Mahomedans to four Hindoos.

15. Twenty-four pergunnahs, a small district, situated on the south side of Calcutta and east of the Hooghly River, comprehend a territory of 882 square miles, which, in 1757, became the zemindary of the Company, and jaghire of Lord Clive. In 1765 was obtained a ten years prolongation of the Jaghire to his Lordship, after the expiration of which it reverted to the Company. Within its boundaries are no fewer than 190 seminaries maintained by charity lands and voluntary contributions, in which Hindoo law, grammar and metaphysics, are subjects of education. There is also one madrissah, or college, for teaching the Mahomedan law. In 1813 this district was much infested with dacoits, or river pirates, though in an evident state of improvement. The jamâ, or land tax, amounted in 1814 to 1,249,003 rupees (£156,125. 7s. 6d.), and the âb-cûri or excise to 1,249,003 rupees (£11,834. 7s. 6d.) It was also observed, that the lands subject to the jamâ were better cultivated than those that were exempted. The total population of the twenty-four pergunnahs, the town of Calcutta, which is sometimes included in them, and the adjacent territories within twenty miles, are estimated at nearly 3,000,000, in the proportion of three Hindoos to one Mahomedan. Budgebudge, in lat. 22° 29' N. and long. 88° 20' E., is remarkable on account of its capture in 1756.

16. Midnapoor (Mednipur), properly belonging to Orissa, but long attached to Bengal, and now considered one of its districts, lies between the 22nd and 23rd degrees of latitude. It is bounded on the north by Rangur and Burdwan, on the south by the independent zemindary of Mohurbunge and Balasore, on the west by Singbloom, Mohurbunge and part of Rangur, and on the east by Burdwan, Hooghly and the sea. Its

area, in 1784, contained 6102 square miles, but has since received considerable additions, and is now estimated in round numbers at 7300 miles. In 1770 the greatest famine ever recorded in history visited this district, and swept away nearly half its inhabitants. In 1801 it was found to contain one million and a half of inhabitants, and, although the soil is rich and fertile, two thirds of the district are described as consisting of jungle, and swarming with noxious animals. The clearing of the land is said to be prevented by the same superstitious prejudices as prevail in Râmgar'h. In this district there are several forts of mud and stone, now in ruins, from one of which named Bataw, were lately removed twenty un-serviceable pieces of artillery. The private houses of the zemindars, and other men of note, frequently consist of ruined forts. Celibacy is in this part of Bengal extremely uncommon; an unmarried Hindoo man of twenty-five, or an unmarried girl of fifteen, being scarcely to be found, and, although the women in general are prematurely debilitated, few marriages are unproductive. The facility of rearing children is extreme. As soon as a child is weaned it lives upon rice, like its parents, requires no care, goes naked for two or three years, and enjoys the best of health. Polygamy, prostitution, religious austerity, and the circumstance of young widows not marrying a second time, have nevertheless considerable influence upon the numerical population. The small pox also commits great ravages, owing to the unwillingness of the natives to practice inoculation.

The principal places of Midnapoor are the town of the same name, 70 miles west by south from Calcutta, Jellasure, Pipley, and Narraingur.

Of the existence of Bengal as a separate kingdom, there is no other evidence than its distinct language and peculiar written character. At the time of the war of Mâhabharat, it consisted of three kingdoms, and afterwards formed part of the Maghada empire, from which it was dismembered before the Mahomedan invasion. The last Hindoo prince of this province, mentioned in history, was Lacshmanyah, who held his court at Nuddeah. During the reign of Cuttub ud Deen, the sovereign of Delhi, Mahomet Bukhtyar Khiljee was despatched to invade Bengal. This general captured the metropolis, expelled Lacshmanyah, and afterwards proceeded to Gour, where he established his capital, and reared his mosques on the ruins of Hindoo temples. The whole of this province is said to have been subdued in one year, and the death of the rajah at Juggernaut, where he retired immediately upon his defeat, gave little hope of a restoration. From this time Bengal was ruled by governors delegated by the sovereigns of Delhi, until 1340, when Fakher ud Deen, having assassinated his master, revolted, and after laying the foundation of an independent monarchy, was defeated and put to death. He was succeeded, in A. D. 1343, by Ilyas Khauje, from whom the succession continued till 1538, when Mahmood Shah was expelled by Shere Shah the Afghan, and Bengal once more became an appendage to the throne of Delhi. In 1576 it was conquered by the generals of the emperor Achar, and four years

afterward formed into a soubah, or vice-royalty of the Mogul empire, by Rajah Tooder Mull. During the government of Azim Khan. A. D. 1534, the English obtained permission to trade with their ships to Bengal, in consequence of a firman from the Emperor Shah Jehan; but were restricted to the port of Pipley, where they established their factory. In 1642, during the reign of Sultan Shujah, the second son of Shah Jehan, and brother of Aurengzebe, Mr. Day, the agent who had so successfully established the settlement at Madras, proceeded on a voyage of experiment to Balasore, whence he sent the first regular despatch ever received by the court of directors from Bengal, recommending a factory at Balasore. In 1656 the factories of the Company were withdrawn, owing to the oppression and extortion which they experienced. In 1664 Shaista Khan succeeded to the throne, during whose government the French and Danes established themselves in the province. In 1680 Mr. Job Charnock was restored to his situation of chief at Cossimbazar, and in the year following, Bengal was constituted a distinct agency from fort St. George, or Madras. It was in 1686 that in consequence of a rupture with the Foujdar, or native military officer of Hooghly, as already described, that the agent and council retired to Calcutta. In 1689 Ibrahim Khan ascended to the supremacy, and in 1693, upon the death of Mr. Job Charnock, Mr. Eyre succeeded him, the seat of the Company's trade continuing at Chattanooga. Sir John Goldesborough was sent out as general commissary and superintendent of all the Company's possessions, but he also died in 1694, having confirmed Mr. Eyre as chief. In consequence of the rebellion of Soobha Singh, in 1696, the foreign settlers, viz. the Dutch at Chinsurah, the French at Chandenagore, and the English at Chattanooga, obtained permission to put their factories in a state of defence, the first instance of the kind ever tolerated within the limits of the Mogul dominions. In 1700 the reigning prince Azim Ushaun, grandson to Aurengzebe, permitted the Company's agents, in consideration of a valuable present, to purchase the three towns of Chattanooga, Govindpoor, and Calcutta, with the lands adjacent to their fortified factory, and Mr. Eyre the chief, having strengthened the fort, denominated it Fort William, in compliment to the King.

In 1706 the whole stock of the Company had been removed to Calcutta, where the garrison consisted of 129 soldiers, of whom sixty-six were Europeans, exclusive of the gunner and his crew. After the invasion of Hindostan by Ahmed Shah Abdalli in 1746, and the death of the emperor Mahomet Shah in the year following, the Mogul empire, with the exception of the region in the immediate vicinage of Delhi, may be considered at an end. In 1756 Seraje ud Dowlah, grandson to the late nabob, Ali Verdy Khan, showed a very hostile feeling towards the Europeans, he took possession of the three provinces in the month of April, and on the 20th of June captured Calcutta, on which occasion he shut the prisoners, to the number of 146, in a room 20 feet square, where they all perished, with the exception of twenty-three individuals. On the first

of January in the year following, Calcutta was retaken by Admiral Watson and Colonel Clive, and the tyrant defeated at Plassey, on the 20th of June. Crimes seldom go long unpunished, and this monster is said to have been assassinated in the July following by the son of his successor, in the twentieth year of his age, and the fifteenth month of his reign.

From this period may be dated the commencement of the British government in Bengal. The Dewanny, however, was not fully obtained till 1765, when lord Clive procured it from Shah Alluin, on condition of paying him the annual sum of twenty-six lacks of rupees, and also securing him a territory in Upper Hindostan, both of which he forfeited, in 1771, by putting himself under the protection of the Mahrattas. The acquisition of the Dewanny, observes anative historian, 'was settled without hesitation or argument, as easily as the purchase of an ass, or any other animal, without envoys or reference either to the king of England, or the Company.' In 1767 lord Clive returned to his native country, and was succeeded by Mr. Verels and Mr. Cartier. A circumstance which occurred about this period, serves to show the state of the inhabitants. In August, 1770, a most alarming phenomenon appeared, of a large black cloud at a distance in the air, which sometimes obscured the sun, and seemed to extend a great way over and about Calcutta. The hotter the day proved, the lower this cloud seemed to descend, and for three days it occasioned great speculation. The brahmins pretended that this phenomenon, which was a cloud of insects, would make its appearance three times; and if ever they descended to the earth, the country would be destroyed by some untimely misfortune. They said, that about 150 years before, there had been such another bad time, when the earth was parched for want of water; and this cloud of insects made its appearance, though it came much lower the second time than it had done before. On the third day, the weather being very hot and cloudy, they descended so low that they could be plainly seen. They seemed to be about the size of a horse-stinger, with a long red body, large head and eyes, keeping close together like a swarm of bees, and, to appearance, flying quite on a line. None, however, were caught, the people being so much frightened by the prognostications of the brahmins. Whilst it rained, they continued in one position for near a quarter of an hour; then they rose five or six feet at once, and in a little time descended as much, until a strong north-west wind blew for two days successively. During its continuance they ascended and descended, but more precipitately than before; and next morning the air was quite clear. For some days before the cloud made its appearance, the toads, frogs, and insects, which, during the rains, make a continual noise through the night, disappeared, and were neither heard nor seen, except in the river.

The year 1772 was distinguished by a change in the administration, and Mr. Hastings was appointed governor. This gentleman was superseded thirteen years afterwards by Sir J. Macpherson, who held the administration till the arrival of Lord Cornwallis in 1787. During his lordship's

government, which lasted until August, 1793, the land revenue was permanently settled, a code of regulations enacted, the army and magistracy new-modelled, and various additional improvements laid down, in which his successor, Lord Teignmouth, perfectly acquiesced; and the marquis Wellesley, during a residence of some years, viz. from 26th of April, 1798, to the 20th of August, 1805, had the honor of completing them.

The Marquis Cornwallis, on his second mission, arrived at Calcutta in July 1805, and died at Ghazipoor, near Benares, on the 5th of the following October. His successor, Sir Geo. H. Barlow, conducted the administration till the arrival of Lord Minto, in July 1807, and on his lordship's return to Europe in 1813, the earl of Moira, who has recently been re-called, assumed the reins of government.

For further and more particular information on the various subjects connected with this article, we refer the reader to *Colebrooke*, *Stewart*, *Tennant*, *Grant*, *Asiatic Researches*, *Asiatic Journal*, *Asiatic Annual Register*, *Lambert*, *Bruce*, *Lord Teignmouth*, *Milburn*, *Ward's Religion of the Hindoos*, *Lord Valentia's Travels*, &c. &c.

BENGAL BAY OF, is a portion of the Indian Ocean, in figure resembling an equilateral triangle, similar to that formed by the continent of the Deccan, &c. south of India, and improperly called the peninsula. The western side extends from Bengal to Ceylon; the eastern from Bengal to Junkseylon, the remaining one across the bay from Ceylon to Junkseylon. Each angle may be estimated at 1120 miles in length, the whole being comprehended within the eighth and twentieth degrees of north latitude. The western coast of the bay is inhospitable for shipping, especially for ships of burden, there being no commodious harbour. On the contrary, the opposite coast affords many excellent harbours, as Aracan, Cheduba, Negrais, and Syriam, in Pegu, near Martaban; Tavoy River, King's Island, Junkseylon, Telobone, Pula Lada, and several others in the Mergui Archipelago. The winds in the bay are said to blow six months of the year from the north-east, and the other six from the south-west, which, though not strictly accurate, is sufficiently

so for common purposes. It is remarkable that in many parts of India, strong winds are observed upon the shore during March and April, blowing directly from the sea, while in the offing it is perfectly calm. Thus, in Bengal, about that period, are strong southerly winds, while in the bay calms prevail until May and June. The south-west monsoon does not commence on the Malabar coast till the opening of the rainy season, although in-shore is visited by strong westerly winds from about the vernal equinox. The tides and currents of the bay run with great velocity; and, as opposite currents frequently meet, a rippling is formed, extending in a straight line for several miles, with a sound resembling that of breakers. The numerous rivers that open on the coast carry into the bay such quantities of slime and mud, that the sea appears turbid at a great distance from the shore. The eastern and western coasts differ very materially. Coromandel has no soundings thirty miles from the shore; the east coast has soundings as far distant as two degrees. Coromandel opens the prospect of a comparatively clear country; the eastern side is covered with wood. Coromandel is extremely hot, from the winds blowing over arid sands; the eastern coast is always cool. On the former side of the bay, the mouths of the rivers are choked with sand; on the latter they are deep and muddy. Coromandel is often visited with destructive gales; the eastern coast has these but seldom.

The land bordering on the summit of this bay, from Point Godavery to Cape Negrais, is understood in the Hindoo Puranas by the term Calinga, and is divided into three parts: 1. Calinga Proper, which extends from Point Godavery to the western branch of the Ganges; the natives of which are called Calingi by Elian and Pliny. 2. Madhya, or Middle Calinga, in the Delta of the Ganges, which Pliny corruptly calls Medo Galinea. 3. Moga Calinga, extending from the eastern branch of the Ganges to Cape Negrais, in the country of the Mias or Muggs, called by Pliny Maccu Calingæ. This term Calinga, simply refers to a country abounding with creeks, and might be applied to the sea coast about the mouths of the Indus with equal propriety.

BENGAL QUINCE, in botany, the English name of the crataeva marmelos of Willdenow; and ægle marmelos of Correa, and others.

BENGAL STRIPES. See GINGHAMS.

BENGO, a river of Angola in Western Africa, having a town of the same name at its mouth. It falls into the Atlantic, in lat. 8° 50' S.

BENGUELA, a province of Angola, bounded on the east by the river Rimba, on the north by the Coanza, and extending west quite to Cape Negro, where the Portuguese possess the only European settlements. Benguela was formerly governed by its own kings; but was entirely ruined by the incursions of the barbarous Giasas, so that its being conquered by the Portuguese, proved a happiness to the natives. The interior is little known, but the country is reputed very

unhealthy. It produces abundance of salt, and the mountains are said to abound in copper. Coral beads are at once the favorite ornament and the only money of this district. The chief town is Benguela de san Felipe, where the Portuguese have a fort, and the viceroy resides, north of the bay of Benguela, in long. 12° 50', lat. 12° 54' S. The harbour is reckoned commodious and safe.

BENHADAD I.; בְּנִי־הָדָד, Heb. i. e. a son of noise; the son of Tabrimon, king of Syria, who bribed by the king of Judah, broke his league with Baasha, king of Israel, and ravaged the northern parts of that kingdom. See 1 Kings xv. 18.

BENHADAD II. the son and successor of Benhadad I. was a still more terrible scourge to the Israelites. 1 Kings xx. and xxii. and 2 Kings v—viii.

BENHADAD III. the son of Hazael, king of Syria, was contemporary with Joash and Jeroboam, kings of Israel. 2 Kings xii—xiv.

BEN-HINNOM, or HINNOM, in ancient geography, a valley in the suburbs, and east of Jerusalem, either a part of, or conjoined with the valley of Kidron; infamous for sacrificing children to Moloch by fire. The place in the valley where the idol stood to which the sacrifice was made, was called Tophet (2 Kings xxiii. 10. Jer. vii. 31, 32, and xix. 2.) from the beating of drums or tabors, to drown the cries of the children; called also Geenon or the Valley of Ennon; whence some derive Gehenna, the place of future punishment.

BENI, a large navigable river of the province of Cuzco, in Peru. It has its rise in the Andes, and runs from east to west, until it enters the Ucayali, a branch of the Amazons. On its shores are many missionary settlements.

BENJAMIN, בְּנִימִן Heb. i. e. the son of the right hand, the youngest son of Jacob by Rachael, and parent of one of the tribes of Israel. Dr. Horne takes particular notice of the circumstances and place of his birth, as figurative of the birth of the Messiah.

BENJAMIN, of Tudela, a learned Jew of the twelfth century, born at Tudela in Navarre. He is supposed to have explored the countries to the north of the Euxine and Caspian as far as Chinese Tartary; where he collected considerable information respecting the Oriental tribes of the Jews. His narrative is curious, but romantic; and was first published at Constantinople in 1543, with a Latin translation by Arius Montanus. There are, also, English and French versions.

BENJAMIN, a gum. See BENZOIN.

BENIGHT. Be and night. See NIGHT. To darken; to surprise with the coming on of night; figuratively, to cloud with ignorance.

He that has light within his own clear breast
May sit 't' th' centre and enjoy bright day;
But he that hides a dark soul, and foul thoughts,
Benighted walks under the mid-day sun;
Himself is his own dungeon. *Milton.*

Those bright stars that did adorn our hemisphere,
as those dark shades that did *benight* it, vanish. *Boyle.*

A storm begins, the raging waves run high,
The clouds look heavy, and *benight* the sky. *Garth.*

The miserable race of men, that live
Benighted half the year, benumb'd with frosts,
Under the polar Bear. *Philips.*

Being *benighted*, the sight of a candle, I saw a good way off, directed me to a young shepherd's house. *Sidney.*

Here some *benighted* angel, in his way,
Might ease his wings; and, seeing heaven appear
In its best work of mercy, think it there. *Dryden.*

But what so long in vain, and yet unknown
By poor mankind's *benighted* wit is sought,
Shall in this age to Britain first be shown. *Id.*

BENIGN, } French, *benigne, bénigneté*;
BENIGNANT, } Ital. and Span. *benigno, benigno*;
BENIGN, } *nita, benignidad*. Kindness of
BENIGNLY. } intention; gentle; courtesy;
actually good; generous and liberal; soothing;
emollient, in opposition to what is irritating
and malignant.

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This is ynough, Grisilde min! quod he,
Be now no more agast, ne evil apaid;
I have thy faith and thy *benignitee*
(As wel as ever woman was), assaid,
In gret estat and pourelich arraied.

Chaucer. Cant. Tales.

This turn hath made amends! Thou hath fulfilled
Thy words, Creator bounteous and *benign*!
Giver of all things fair. *Milton.*

So shall the world go on,
To good malignant, to bad men *benign*. *Id.*

We owe more to Heaven, than to the sword,
The wish return'd of so *benign* a lord. *Waller.*

What Heaven bestows upon the earth, in kind influences and *benign* aspects, is paid it back in sacrifice and adoration. *South.*

They who delight in the suffering of inferior creatures, will not be very compassionate or *benign*. *Locke.*

Different are thy names,
As thy kind hand has founded many cities,
Or dealt *benign* thy various gifts to men. *Prior.*

It is true, that his mercy will forgive offenders, or his *benignity* co-operate to their conversion. *Brown.*

Although he enjoys the good that is done him, he is unconcerned to value the *benignity* of him that does it. *South.*

These salts are of a *benign* mild nature in healthy persons; but in others retain their original qualities, which they discover in cachexies. *Arbuthnot.*

Bones receive a quicker agglutination in sanguine than in choleric bodies, by reason of the *benignity* of the serum, which sendeth out better matter for a callus. *Wiseman.*

'Tis amazement more than love,
Which her radiant eyes do move;
If less splendour wait on thine,
Yet they so *benignly* shine,
I would turn my dazzled sight
To behold their milder light. *Waller.*

Oh, truly good, and truly great!
For glorious as he rose, *benignly* so he set. *Prior.*

BENIGNUS (St.), an Irish divine of the fifth century, said to have been a disciple of St. Patrick, and to have been his successor in the see of Armagh. He died in 468. A work on the Life and Miracles of St. Patrick, the Munster Book of Reigns, and an Irish poem on the conversion of his countrymen, are ascribed to him.

BENIHASSEN, a province of Morocco, on the shores of the Atlantic. It abounds in corn, and is said by Mr. Jackson to contain 300,000 inhabitants. Sallee is the chief town.

BENI-MEZZAB, a southern district of Algiers, inhabited by a tribe of Arabs bearing this name, who pay a mere nominal submission to the Algerine state. The chief town is Gardeiah.

BENIN, an extensive kingdom on the coast of Africa, whose boundaries are not precisely ascertained, although the name seems to be generally applied to that part of the coast extending from the Rio Lagos to the Rio Formosa. It derives its name from the river Bonny or Baní, which flows from the north-west. It was first explored, as Di Barros asserts, in 1486, by Alfonso de Aveiro, in consequence of a request from the king that missionaries might be sent to instruct him in the Christian religion. The same author mentions an embassy of the Portuguese, sent to a great distance in the interior, for the purpose

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of visiting a prince called Ogane, to whom the king of Benin was tributary. This major Rennell supposes to be the celebrated kingdom of Gana, established by the Arabians on the Niger. The entire coast presents a succession of estuaries, the origin of which has never been explored. These, dividing themselves into branches, intersect each other, and form a number of alluvial islands; and not unfrequently small floating islets, covered with shrubs and bushes, are brought down towards the sea. A recent traveller imagined from this aspect of the coast that the estuaries in question might form the embouchure of the great central river of Africa, the termination of which remains enveloped in mystery. At least the number of outlets appear to be the mouths of one large stream, forming a delta in the interior, like that of the Nile or the Ganges. The banks of these rivers, though fertile and agreeable, are extremely insalubrious, and particularly fatal to Europeans, so that the vessels which ascend them for the purpose of procuring slaves, commonly lose a great part of their crews before they return. This may be one reason why, notwithstanding the facilities of navigation, fewer attempts have been made to explore the interior from this part of the African coast than from almost any other.

There does not appear to have been any establishment on the coast before 1786, when the French erected a fort at the mouth of the Formosa, on the island of Borodo, ceded to them by the king of Wari. This was afterwards destroyed by our cruisers in 1793.

The land in general is low and woody; in some parts it has rivers and lakes, but in others there is a scarcity of water. The soil is every where alluvial, and highly productive, even where fresh water cannot be obtained, as is the case between Gato and Benin. It has a great number of wild beasts, particularly elephants, lions, tigers, leopards, baboons, monkeys, wild boars, deer, &c. The birds are partridges, of which some are blue and some green, turtles, wild ducks, woodcocks, &c. Indian corn and yams are the ordinary food of the natives, and serve in the room of bread; they have two sorts of beans, like horse-beans, but not near so good. Their fruits are cocoa-nuts, cantarine apples, bananas, wild figs, &c. Gold-dust is not found in this kingdom, which, together with the absence of other mineral productions, shows that the higher lands must be at a considerable distance. The negroes have several colors which might serve for painting, and a good sort of soap made with palm-oil and wood-ashes; palm-oil, salt, and acori or blue coral, are articles of trade; they have, also, a great deal of cotton, which not only serves for their own use, but is exported to distant places. A little above Arebo the country is extremely marshy and full of islands, overgrown with lofty trees; it is also incommoded with vast numbers of mosquitoes, which sting terribly, and render the skin full of pustules. There are three principal villages, to which the negroes come from the inland countries to traffic. One is called Boodaden, and consists of about fifty-five houses or huts, for they are made with reeds and covered with leaves. The

second, called Arebo, is much larger than the former, and pretty well stocked with inhabitants; the houses of this village have much more room, but are built after the same manner as the former. The third is named Agaton and was built upon a hill, and was almost ruined by the wars; but has been lately rebuilt by the negroes on account of its agreeable situation. Great Benin is the capital and residence of the king. The inhabitants are very exact in their trading, and will not recede from any of their old customs; this renders them so slow in their dealings, and backward to pay their debts, that even traders are sometimes obliged to sail before they receive satisfaction; but then they are paid when they return. Some of the merchants are appointed by the government, which demands a sort of custom, though very trifling. There are three sorts of officers under the king; the first are always near him, and none can address him but by their means: of the second sort, one takes care of the slaves, another of the cattle, another of the streets, another of war, and so on. Children go almost naked till they are fourteen, when they wrap a cotton cloth round their middles: the richer sort put on a sort of calico gowns, when they go abroad, with a kind of drawers; but within they are contented with their usual cloth: the women of the superior rank wear their cotton cloths like petticoats, and have a covering round their shoulders, but keep it open before. The rich inhabitants of Benin live upon beef, mutton, and poultry; their drink is water, and brandy when they can get it. The poorer sort live upon dried fish, bananas, and beans; their drink is water and palm-wine. Their chief handicrafts-men are, smiths, carpenters, and carriers: but they perform all their work in a very bungling manner. The men have as many wives as they can keep, whom they take without any ceremony, except giving a treat to their relations: when M. Paliset de Beauvois was in this country, one of the king's ministers had no fewer than 400. The wives of the lower sort may go where they please; but those of the rich are shut up. The husband, generally speaking, is jealous of his wives with respect to his own countrymen, but extremely indulgent to their connexion with Europeans, and not unfrequently offers them himself. In other cases when a woman is caught in adultery she is turned away, and the goods of the man are forfeited to the husband; but if the relations of the woman are rich, they prevail with him to overlook the fault by dint of presents. They use circumcision, which is performed seven days after the children are born, at which time the father makes a feast for the relations; they have also customs, relating to uncleanness, resembling those of the Jews. Thieves are punished by making the party amends, if they can, otherwise they are bastinadoed; but murder is always punished with death. When a person is only suspected of a crime, they have several ways of putting him to a trial, like the fire ordeal, or the bitter water of the Jews; but they are of such a nature, that the innocent may be as often condemned as the guilty. The religion of this country, like that of the rest of this coast, is a fetish (fertiço) worship, debased by

the grossest superstition. They believe in one almighty and invisible God; yet worship images as well in a human form as in those of inferior animals. They look upon these lesser deities as mediators between God and man; some of these idols are in the house, and some in cabins by themselves. Every fifth day is holy; on which the rich kill cows, sheep, and goats; and others, dogs, cats, and fowls, which they distribute among their poor neighbours.

The government of Benin is entirely absolute, and the king, like most of the negro princes, has a despotic power. He is venerated almost as a deity by his subjects, and is constantly attended by three grantees, through whose agency all affairs are transacted. He never appears in public except twice in the year, at the yam-feast and the cowry-feast, and then human sacrifices are offered up. On these occasions he is surrounded with his wives and a great number of officers, who walk out in procession, and begin the feast by sacrificial oblations. This done, he bestows victuals and wine among the multitude, which is imitated by his officers. On those whom the king wishes to confer peculiar honor, he bestows a string of coral, equivalent to one of our orders of knighthood; but it is death afterwards to lose this badge, or even to quit it for an instant. One traveller mentions a case in which this ornament had been stolen: and in consequence, the original possessor, the thief, and three persons who had known the crime without disclosing it, were put to death. At the decease of the king a great number of his attendants are buried alive along with him; and the descriptions given by the older navigators of the massacres made on these occasions are as horrid as similar scenes in Ashantee described by Mr. Bowditch. The obsequies are followed by a splendid festival celebrated with every species of intoxication and debauchery. It is, however, to be regretted that we have no authentic description of this country more recent than those of Nyendael and Bosman; the last of which was written more than a century ago.

Great Benin, the capital of the kingdom, and residence of their kings, is seated in the interior, on an open plain, and is enclosed by a wide ditch. Its extent, according to some travellers, is truly immense; it is said to be eighteen miles in circumference; to have one street three miles long, and many others of nearly equal dimensions. There are markets in the town twice a day, where the natives sell cows, cotton, elephants' teeth, European merchandises, and other valuable commodities; separate quarters being allotted for each distinct species of traffic. The women attend the markets, till the ground, and manage their domestic concerns. The king's palace consists of a great number of square enclosures, presenting an irregular and confused heap of buildings, made of boards and clay, including houses for the royal person, his women, and officers, besides stables, magazines, repositories, &c. The buildings are covered with shingles, and the nearest springs are a furlong distant, which must be a serious inconvenience in so hot a climate. The king's family is, however, smaller than those of the neighbouring monarchs, the number of his

wives seldom exceeding six hundred. In the midst of the royal enclosure is a wooden tower about seventy feet high, made like a chimney, and on the top is a brazen serpent, hanging with his head downwards: this is well made, and is the most curious thing in the town. There is a gallery of statues, but so wretchedly carved, that there is no knowing what they represent without being told: behind a curtain there are eleven brazen heads, with an elephant's tooth on each; these are the king's idols: his throne is made of ivory, on which he sits in a pavilion of Indian stuff. All the inhabitants of this town and country go under the denomination of the king's slaves; and some say, that none of them wear any habit till given them by the king; but this seems to be only a salvo to account for the great number of men and women that are daily seen naked in the streets; for if it be true, that the king of Benin can bring 100,000 fighting men into the field, his subjects must be very numerous; and it is scarcely probable he could bestow garments upon them all. The buildings of the town generally consist of huts, thatched with the leaves of the fan-palm (*latania*); and the town wall is composed of trunks of trees interwoven in the manner of a palisade. Jabu, west of the Formosa, is a place of considerable importance, and in rank, perhaps, next to the capital: blue and white cottons, manufactured here, are taken by the Portuguese for the use of their slaves in Brasil. Wari, an island at the mouth of the Rio de Escavo or Dos Forcados (slave's or hangman's river), formerly gave its name to an independent state. The Benin river in this kingdom has many arms, or sources; some of them so large that they deserve the name of rivers; it abounds with fish, which the inhabitants eat smoke-dried as well as fresh. The place of trade in this river is at Arebo, about 120 miles distant from its mouth; and to this place the ships may sail up. Those who take this voyage see the mouths of a great many rivers fall into the principal channel on the right and the left: but how far it ascends into the country is not known.

The natives are remarkably courteous and hospitable; they have the faults and the virtues of negroes; generally, they are benevolent and faithful; but irascible, vindictive, indolent, and thoughtless; the slaves of an inhuman and degrading superstition. The females are said to be lively and handsome, fond of ornament, and to use great art in dressing their hair. The attachment of these people to their country is beyond all bounds: how must this heighten the wretchedness of those who are carried off in slave ships! The number of these unhappy victims, from Bani alone, before the abolition, amounted to nearly 20,000 annually; and it is to be feared that the French and Portuguese have renewed the traffic to a great extent since the conclusion of the continental war.

This state, like many other negro kingdoms, has at times acquired an extensive influence over the petty principalities in the neighbourhood. At present, the islands of Wari (Waree, Owheri, Owarre, or Awarri), and Bani (Bonny on the east, and Jabu on the west), are tributary to the sovereign of Benin.

Robertson's Notes on Africa, 297. *Le Groing* and *Palisot de Beauvais* in the *Annales des Voyages*. *Smith's Voyage to Guinea*.

BENINI (Vincent), a learned physician, born at Cologne, in 1713. He settled and practised at Padua, where he kept a printing press in his house, from whence he sent into the world several good editions of classical authors. He wrote in Latin, *Notes on Celsus*; in Italian, *Observations upon the Poem of Alamanni*, entitled *Culture*, and a *Translation of the Syphilis of Fracastorius*. He died in 1764.

BENISON, *n. s.* *Benir* to bless; *benissant*, Fr., blessing; benediction: not now used, unless ludicrously.

We have no such daughter; nor shall ever see
That face of hers again; therefore, begone,
Without our grace, our love, our *benison*. *Shakespeare*.
Unmuffle, ye fair stairs, and thou, fair moon,
That won'tst to love the traveller's *benison*. *Milton*.

BENSUWEEF, a town of Egypt, on the west bank of the Nile, in El Wostani, and the residence of a bey. It is adorned with many mosques, and has manufactories of carpets, woollens, and linens. Standing in lat. 29° 9' N., long. 30°. 32' E.

BENLAVERS, a mountain of Scotland, in the county of Perth, supposed to be the third highest in the island of Britain. Height 4015 feet.

BENLOMOND, a mountain of Scotland, in the county of Dumfries, chiefly composed of granite, with immense masses of quartz. It rises from Lochlomon, a beautiful lake, to the height of 3240 feet above its level, and 3262 above the level of the sea. Its sides are covered with fine natural woods, and it gives rise to several rivers.

BENMACDUIE, a mountain of Scotland, on the western confines of the county of Aberdeen, and the second highest mountain in the island of Britain. During one of the hottest days of September, Fahrenheit's thermometer was found to stand at 47 degrees on the summit. Height 4300 feet.

BENMORE, a mountain of Scotland, in the county of Perth, of a conical form. Height 3903 feet.

BENNAVENTA, or **BENNAVENNA**, an ancient town of Britain, on the Ausona Major, or the Antonia of Tacitus: supposed to be Northampton on the Nen; but according to Camden, Weedon, a village six miles to the west of Northampton.

BENNET (Christopher), a physician of the sixteenth century, was a native of Raynton, in Somersetshire. He was educated at Lincoln College, Oxford; and published a treatise on consumptions, entitled, *Theatri Tabidorum Vestibulum*, &c.; also, *Exercitationes Diagnosticæ, cum Historiis demonstrativis, quibus Alimentorum et Sanguinis vitia deleguntur in plerisque morbis*, &c.

BENNET (Henry), earl of Arlington, was born of an ancient family in Middlesex. In the beginning of the civil war, he was appointed under secretary to George Lord Digby, and afterwards entering as a volunteer in the royal cause, received several wounds at Andover. He continued faithful to the royal interest in foreign parts, and was made secretary to the duke of York;

knighted by Charles II. at Bruges in 1658; and sent envoy to the court of Spain. Charles, upon his restoration, made him keeper of the privy purse, and principal secretary of state. He had always a peculiar dislike to the lord chancellor Hyde; who considered him as a concealed papist. In 1670 he was of the council, entitled the Cabal, and one of those who advised shutting up the exchequer. In 1672 he was made earl of Arlington and viscount Thetford, and soon after K. G. He was appointed in 1673 one of the three plenipotentiaries to Cologne, to mediate a peace between the emperor and the king of France. The House of Commons, the same year, drew up articles of impeachment against him; but in 1674 he was made chamberlain of the king's household. But his interest declined before his death, which took place in 1685. His letters to Sir William Temple were published after his death, and are much esteemed.

BENNET (Thomas), D. D. an eminent divine, born at Salisbury in 1763, and educated at Cambridge. In 1700 he was made rector of St. James's, Colchester; afterwards he was lecturer of St. Olave's, Southwark, and morning preacher at St. Lawrence, Jewry; at last he was presented to the vicarage of St. Giles's, Cripplegate. He wrote, 1. An Answer to the Dissenters' Plea for Separation. 2. A Confutation of Popery. 3. A Discovery of Schism. 4. An answer to a book entitled Thomas against Bennet. 5. A Confutation of Quakerism. 6. A brief History of the joint Use of pre-conceived Forms of Prayer. 7. An Answer to Dr. Clarke's Scripture Doctrine of the Trinity. 8. A Paraphrase, with Annotations, on the Book of Common Prayer. 9. An Hebrew Grammar, and other pieces. He died October 9th, 1728.

BENNET, an herb; the same with avens.

BENNET, in botany. See **CARYOPHYLLUS**.

BENNETT (Agnes Maria), a celebrated novelist, wrote *Anna*, or *Memoirs of a Welsh Heiress*—4 vols. an impression of which was sold on the day of publication. *Juvenile Indiscretions*, 5 vols.; *Agnes de Courci*, 4 vols.; *Ellen, Countess of Castle Howell*, 4 vols.; *The Beggar Girl and her Benefactors*, 5 vols. The last production of her pen was, *Vicissitudes abroad, or the Ghost of my Father*, 6 vols.; 2000 copies of which are said to have been disposed of the day it made its appearance. Most of her novels have been often re-printed, and some have been translated into French and German. She died at Brighton in 1805.

BENNEVIS, a mountain of Scotland, in the county of Dumfries, the highest in the island of Great Britain. It rises 4370 feet above the level of the sea. A great portion of this mountain consists of porphyry, of different shades, and beautiful red granite. It also contains a vein of lead ore, richly impregnated with silver. On one side of the mountain there is an immense precipice. The summit is generally covered with snow.

BENNINGTON, a county of the State of Vermont, in North America, bounded North by Rutland, east by Windham, south by the State of Massachusetts, west by a due north and south line, which divides it from the State of New York.

It is thirty-four miles from north to south, and nineteen from east to west. The population is upwards of 17,000. Bennington and Manchester are the two principal towns. In the mountains are found large quantities of iron ore; and in the neighbourhood of Bennington, the capital, there is a fine marble quarry.

BENNINGTON, a post town of the county, and formerly the seat of government, is situated near the south side of the Hoosack river, and contains a population of about 3000, engaged in manufactures of cotton, wool, and paper. A battle was fought near this town in 1777, between brigadier-general Starke, at the head of 800 militia, and a detachment of general Burgoyne's army, in which, after a doubtful conflict, the Americans were victorious. The county courts are held alternately here and at Manchester. Bennington has also an academy and a weekly newspaper. It is thirty-seven miles north-east of Albany, 298 from Philadelphia, and 395 from Washington.

BENOIT (Renatus), a doctor of the Sorbonne, and rector of St. Eustathius at Paris, in the sixteenth century. He was a secret favorer of the protestant religion; and, that his countrymen might be able to read the bible in their own tongue, he published at Paris the French translation, which had been made by the reformed ministers at Geneva. It was approved of by several doctors of the Sorbonne before it went to press, and Charles IX. had granted a privilege for printing it. Yet when it was published it was immediately condemned. He had been before this confessor to Mary queen of Scots during her stay in France, and attended her when she returned to Scotland. Some time before the death of Henry III., Dr. Benoit, or some of his friends with his assistance, published a book, entitled, *Apologie Catholique*, i. e. *The Catholic Apology*, in which it was showed, that the protestant religion, which Henry king of Navarre professed, was not a sufficient reason to deprive him of the crown of France. When Henry IV. was resolved to embrace the Catholic religion, he also assisted at the assembly in which that monarch abjured protestantism. The king promoted him to the bishopric of Troyes in Champagne, 1597, but he could never obtain the papal bull to be installed. However, he enjoyed the temporalities of that bishopric, till he resigned it. He died in 1608.

BENOIT (Elias), a French protestant divine, born at Paris in 1640. On the revocation of the edict of Nantes, he retired to Holland, and became pastor of the church at Delft, where he died in 1728. He wrote a *History of the Edict of Nantes*, 5 vols. 4to, 1693, and several tracts of lesser note.

BENOWM, the capital of the Moorish kingdom of Ludamar, in central Africa. According to Mr. Park, who was detained here some time in captivity, it presents to the eye the appearance of a number of dirty looking huts, scattered irregularly over a large extent of ground, and resembling a camp rather than a town. Long. $7^{\circ} 10'$ W., lat. $15^{\circ} 5' N$.

BENSERADE (Isaac de), an ingenious French poet of the sixteenth century, born at Lyons-la-Forêt, in Normandy, had the good

fortune to please the cardinals Richelieu and Mazarin. After the death of Richelieu, he got into favor with the duke de Brezé, whom he accompanied in most of his expeditions. When this nobleman died, he returned to court, where his poetry was highly esteemed. He wrote, 1. A Paraphrase upon Job. 2. Verses for Interludes. 3. Rondeaux upon Ovid. 4. Several Tragedies, A sonnet which he sent to a young lady with his Paraphrase on Job, being put in competition with the Urania of Voiture, caused him to be much spoken of as the head of a party against that celebrated author. Those who gave the preference to Benserade's performance, were styled the Jobists, and their antagonists the Uranists; and the dispute long divided the whole court and the wits. He withdrew at last from court, and retired to Gentilly. The bark of the trees of his garden there were full of inscriptions, which, Voltaire is of opinion, were the best of his productions. Benserade suffered at last so much from the stone, that he resolved to submit to the operation of cutting; but a surgeon, by way of precaution, letting him blood, pricked an artery, and instead of endeavouring to stop the effusion of blood ran off. There was but just time to call Commire, his friend and confessor, who came soon enough to see him die. This happened on the 19th of October, 1691, in the eighty-second year of his age.

BENSON (Dr. George), a learned dissenting clergyman, born at Great Salkeld, in Cumberland, in 1699. At eleven years of age he was able to read the Greek Testament. He afterwards studied at Dr. Dixon's academy at Whitehaven, from whence he removed to the university of Glasgow. In 1721 he was chosen pastor of a congregation of dissenters at Abingdon in Berkshire; in 1729 he received an invitation from a society of dissenters in Southwark, with whom he continued eleven years; and in 1740 was chosen by the congregation of Crutched Friars, colleague to the learned Dr. Lardner. The first fruit of his studies presented to the public was, *A Defence of the reasonableness of Prayer*. The light which Mr. Locke had thrown on the obscure parts of St. Paul's epistles, by making him his own expositor, encouraged and determined Mr. Benson to attempt to illustrate the remaining epistles in the same manner. In 1731 he published *A Paraphrase and Notes on the Epistle to Philemon*, as a specimen. This was well received, and the author encouraged to go on with his design. Mr. Benson proceeded with great diligence and reputation, to publish *Paraphrases and Notes on the Epistles to the Thessalonians, Timothy, and Titus*; adding, *Dissertations on several important Subjects, particularly on Inspiration*. In 1735 he published his *History of the first Planting of Christianity, taken from the Acts of the Apostles, and the Epistles*, in 2 vols. 4to. He also wrote, *The Reasonableness of the Christian Religion*; *The History of the Life of Jesus Christ*; *A Paraphrase and Notes on the seven Catholic Epistles*; and several other works of high repute. Many of high rank in the church of England, as Herring, Hoadly, Butler, Benson, Coneybeare, &c. showed him great marks of favor and regard. He pursued the same studies

with great application and success till the time of his death, which happened in 1763.

BENTHAM (James), an English divine and historian, received the first part of his education at Ely, after which he went to Trinity College, Cambridge. In 1771 he published the *History and Antiquities of the Church of Ely*, with plates, 4to; and was presented to the rectory of Northwold in 1774, but exchanged it for a prebend of Ely in 1779. In 1783 he obtained the rectory of Bow-Brickhill, and when the dean and chapter of Ely resolved upon a general repair of the church, he was nominated clerk of the works. In his work on Ely Cathedral, was first brought forward the presumed origin of the pointed arch, the chief feature of the Gothic style, and that on which the whole seems to be formed. Bentham supposed this kind of arch might have been derived from the intersection of two semi-circular arches, such as are seen on the walls of buildings erected soon after the conquest. Other writers have since adopted this hypothesis, and Dr. Milner, in particular, has supported it with much learned ingenuity. But attempts have been rather unfairly made, to deprive Mr. Bentham of the credit of his suggestion. The writer of the article Gothic Architecture in *Rees's Cyclopædia*, also states, that 'the poet Gray drew up the architectural part of the *History of Ely Cathedral*.' This is successfully rebutted in the memoirs of Bentham, prefixed to the new edition of the *History* published in 1812, where it is shown, that the architectural essay in question, far from having been written by Gray, was actually drawn up before Bentham was acquainted with the poet, and was the occasion of their subsequent intercourse. Another extraordinary attack on the reputation of the Ely historian has been made by Cole, the Cambridge antiquary, who coarsely asserts it to have been written by his brother Edward Bentham, divinity professor at Oxford; for which statement there seems to be not the slightest foundation. Mr. Bentham died in 1794, aged eighty-six.

BENTHAM (Thomas), bishop of Litchfield and Coventry, was born at Sherburn in Yorkshire in the year 1513, and educated at Magdalen College, Oxford. He took the degree of A. B. in 1543, and in 1556 was admitted perpetual fellow, and proceeded the year following, which was that of Edward VI's accession. He now threw off the mask of popery, which, during the reign of Henry VIII. he had worn with reluctance. When Mary came to the crown, being deprived of his fellowship, he prudently retired to Basil in Switzerland, where for some time he expounded the Scriptures to the English exiles; but being solicited by some Protestants in London, he returned to London before the death of the queen, and was appointed superintendent of a private congregation in the city. Immediately on the accession of Elizabeth, Bentham was preferred in the church, and in the second year of her reign was consecrated bishop of Litchfield and Coventry. He died at Eccleshal in Staffordshire, in 1578, aged sixty-five. He was particularly celebrated for his knowledge of the Hebrew language. His works are, 1. *Exposition of the Acts of the Apostles*; manuscript. 2.

A *Sermon on Christ's Temptation*; London 8vo. 3. *Epistle to M. Parker*; manuscript. 4. *The Psalms, Ezekiel, and Daniel*, translated into English in queen Elizabeth's Bible.

BENTHEIM, formerly a county of Westphalia, but now of the kingdom of Hanover, forty-five miles long, and eighteen broad, containing about 25,000 inhabitants. It is a pleasant fertile country, abounding in fruitful fields and luxuriant meadows. The inhabitants, who are chiefly Protestants, are remarkably industrious, and trade in yarn, wool, linen, thread, cattle, and honey. Here are also some extensive woods, and several good stone quarries. The Veitch waters the whole district.

BENTHEIM, the capital of the above county, with a castle, stands on a hill about thirty miles north-west of Munster. This castle was formerly garrisoned by the troops of the bishop of Munster; but was taken by the French, after a heavy bombardment, in 1760. Being soon after re-taken by the allies, part of the works were blown up. It was taken again by the French in 1799, and retained till the peace. Here are two churches, one used by the Protestants, the other by Catholics.

BENTINCK (William), first earl of Portland, was born of a noble family in Holland. He came over to England in company with the prince of Orange, to whom he had endeared himself by a very remarkable instance of affection and fortitude. That prince having the small pox, his physician pronounced it necessary that he should have the warmth of a young person in bed with him; and Bentinck, though he never had the disorder, instantly offered himself for that hazardous service. He in this way caught the disease to such a degree as was considered very dangerous, but he recovered; and ever after his master had the most affectionate esteem for him. When the prince ascended the throne of England, he created Bentinck earl of Portland, and granted him the lordship of several lands in Denbighshire; but parliament being discontented at the grant, it was revoked, and the earl compensated elsewhere. He was employed in different high offices, both civil and military; and attended his master on his death bed. Bentinck died in 1709, and was interred in Westminster Abbey.

BENTINCK (William Henry Cavendish), third duke of Portland, was born in 1738, and educated at Oxford. He sat for some time in the house of commons, as member for Weobly, and was called to the upper house by the death of his father in 1762. In 1765 he became lord chamberlain during the Rockingham administration. In the American war he acted with the opposition, and in 1782 was appointed lord lieutenant of Ireland, but remained there only three months, in consequence of the breaking up of the administration. After the memorable coalition, which fell before the rising fortunes of Mr. Pitt, the duke acted with the whig opposition until 1792, when he was elected chancellor of Oxford, and soon after joined with Mr. Burke in his alarm at the French revolution. He was, in 1794, made secretary of state for the home department, which he held until the resignation of Mr. Pitt in 1801, and was then

appointed president of the council, which he held until 1805. On the resignation of lord Grenville, in 1807, he was appointed first lord of the treasury, and was nominally prime minister; but the chief duties of administration devolved on Mr. Percival, the chancellor of the exchequer. He died of the stone in 1808, with the character of an upright and respectable, if not very able statesman.

BENTINCK'S ARMS, two branches of an inlet of the North Pacific Ocean, discovered by Vancouver, on the west coast of North America: one to the north-east, the other to the south-east. Long. 233° to $233^{\circ} 21' E.$, lat. $52^{\circ} 0'$ to $52^{\circ} 25' N.$

BENTINCK'S ISLAND, an island of New Holland, ten or eleven miles in length, near the bottom of the gulf of Carpentaria.

BENTIVOGLIO, a small town of Italy, in the papal territory, ten miles north-east of Bologna, with a castle. Long. $11^{\circ} 34' E.$, lat. $44^{\circ} 47' N.$

BENTIVOGLIO (Guy), cardinal, born at Ferrara, in the year 1579. He studied at Padua; and leaving the university, went to reside at Rome, where he became universally esteemed. He was sent nuncio to Flanders and France, and in both employments his behaviour was such as gave great satisfaction to Paul V. who made him a cardinal in 1621. Bentivoglio was at this time in France, and when he returned to Rome the king of France entrusted him with the management of the French affairs at that court. Pope Urban VII. had a high regard for him on account of his fidelity, disinterestedness, and consummate knowledge in business. He was much beloved by the people, and esteemed by the cardinals. He died 7th September, 1644. He left several works; the most remarkable of which are, *A History of the Civil Wars of Flanders*; *An Account of Flanders*, with Letters and Memoirs.

BENTLEY (Dr. Richard), an eminent critic and divine, was born at Oulton, in the parish of Rothwell, near Wakefield. His ancestors, possessed an estate, at Heptonstall, in the parish of Halifax. His mother taught him his accidence. To his grandfather Willis, who was left his guardian, he was in part indebted for his education; and, having gone through the grammar-school at Wakefield with singular reputation, he was admitted of St. John's College Cambridge, May 24, 1676; being then little more than fourteen. On the 22d of March, 1681-2, when only nineteen, he stood candidate for a fellowship, and would have been unanimously elected had he not been excluded by the statutes, on account of his being too young for priest's orders. Soon after, he became a school-master at Spalding. But he did not continue long in this situation. From a letter of his grandfather's, it appears, that he was with Dr. Stillingfleet at the deanery of St. Paul's, April 25, 1683. He had been recommended by his college to the dean as preceptor to his son; and Dr. Stillingfleet gave Mr. Bentley his choice whether he would carry his pupil to Cambridge or Oxford. He fixed upon the latter university on account of the Bodleian library, to the consulting of the MSS. of which he applied with the

closest attention. Being now of age he made over a small estate, which he derived from his family, to his eldest brother, and laid out the money he obtained for it in the purchase of books. In July 1683 he took the degree of A. M. at Cambridge. In 1692 Dr. Stillingfleet, being now bishop of Worcester, collated him to a prebend in that church, and made him his chaplain. That learned prelate, as well as Dr. Wm. Lloyd, then bishop of Litchfield, had seen many proofs of Bentley's extraordinary merit, and concurred in recommending him as a fit person to open the lectures upon Mr. Boyle's foundation, in defence of natural and revealed religion. This gave him a fine opportunity of establishing his fame, and he resolved to embrace it. Sir Isaac Newton's Principia had been published a few years, but it was little known and less understood. Mr. Bentley therefore spared no pains, in exhibiting to the public the profound demonstrations, which that excellent work furnishes in proof of a Deity; and applied to Sir Isaac himself for the solution of some difficulties, which had not fallen within the plan of his treatise. His lectures, therefore, highly raised his reputation as a preacher; notwithstanding a mistake, which laid him open to the railery of Dr. Keill, viz. of proving the moon not to turn round her axis, because she always shows the same face to the earth. In 1693 he was made keeper of the royal library at St. James's. Next year arose the famous dispute between this celebrated critic and the honorable Mr. Boyle, respecting the epistles of Phalaris. The Dr. asserted them to be spurious, the production of some sophist, and altogether contemptible as a literary performance. The chief pieces which appeared in this noted controversy were, 1. Dr. Bentley's Dissertation upon the Epistles of The-mistocles, Socrates, Euripides, Phalaris, and the Fables of Æsop, at the end of the second edition of Mr. Wotton's Reflections on Ancient and Modern Learning; but afterwards printed by Dr. Bentley entire, with great additions to his farther defence of it, in answer to Mr. Boyle. 2. Dr. Bentley's Dissertation on the Epistles of Phalaris, and the Fables of Æsop, examined by the honorable Charles Boyle, Esq.; a book more commonly known by the title of Boyle against Bentley. 3. Dr. Bentley's Answer to the above, commonly known by the name of Bentley against Boyle; a curious piece, interspersed with a great deal of true wit and humor. The victory was at the time adjudged to Mr. Boyle, and the ridicule of the wits exercised upon Dr. Bentley. Thus Dr. Garth:—

So diamonds take a lustre from their foil,
And to a Bentley 'tis we owe a Boyle.

Some wits of Cambridge drew Bentley's picture in the hand of Phalaris's guards; whom they represented putting him into their master's bull; while a label proceeded from the Doctor's mouth with these words, 'I had rather be Roasted than Boyled.' But H. Walpole, speaking of Boyle's translation of the Epistles of Phalaris, says, 'This work occasioned the famous controversy with Dr. Bentley; who alone, and unworsted, sustained the attacks of the brightest

gentuses in the learned world, and whose fame has not suffered by the wit to which it gave occasion; and Dodwell, who resided at Oxford during the controversy, declared to the Churchmen, that he never learned so much from any book of the size, in his life, as he had done from Dr. Bentley's Answer to Boyle. In 1696, at the public commencement, Mr. Bentley was created D.D. by the university of Cambridge; and sometime after admitted ad eundem, in the university of Oxford. In 1700 he was presented to the mastership of Trinity College, Cambridge, which is reckoned worth near £1000 per annum; and, in 1701, was collated to the archdeaconry of Ely. Being thus placed in a state of ease and affluence, he married, and indulged his inclination in critical pursuits. The fruits of his labors, which he occasionally published, displayed such erudition and sagacity, that by degrees, he obtained the character of being the greatest critic of the age. In the meanwhile, however, a complaint was brought against him before the bishop of Ely, by several of the fellows of his college, who charged him with embezzling the public money, and other misdemeanors. In answer to this, he published in 1710, *The present State of Trinity College*, 8vo; and thus began a quarrel, which was carried on with the most virulent animosity on each side, for above twenty years. In 1716, upon the death of Dr. James, he was appointed regius professor of divinity at Cambridge; annexed to which was a good benefice in the bishopric of Ely. King George I. on a visit to the university in 1717, having, as usual nominated by mandate several persons for a doctor's degree in divinity, our professor, to whose office it belonged to perform the ceremony called creation, demanded four guineas from each person, besides a broad piece of gold, and absolutely refused to create any doctor without these fees: hence there arose a long and warm dispute, during which, the doctor was first suspended, and then degraded; but on a petition to his majesty for relief from that sentence, the affair was referred to the court of King's Bench, where the proceedings against him being reversed, a mandamus was issued, charging the university to restore him. A concise account of his controversies with his college and the university, may be seen in Mr. Gough's *Anecdotes of Topography*. There are likewise, in the Harleian collection of MSS. in the British Museum, No. 7523, some authentic papers relative to these proceedings. Dr. Bentley was endowed with a natural hardness of temper, which enabled him to ride out both these storms without any extraordinary disturbance, or interruption to his literary pursuits. His principal works, besides those already mentioned, were, 1. *His Animadversions and Remarks on the poet Callimachus*. 2. *Annotations on the first two Comedies of Aristophanes*. 3. *Emendations, &c. on the Fragment of Menander and Philemon*. 4. *Remarks upon Collin's Discourse of Free-thinking*. 5. *Beautiful and correct editions of Horace, Terence, Phadrus, and Milton, with notes*. In 1721 he published proposals for printing a new edition of the Greek Testament, and St. Hieron's Latin version; in

which edition he intended to make no use of any MS. that was not at least 1000 years old. Upon these proposals Dr. Middleton published some remarks; and the work never made its appearance. He died at his lodge in Trinity College, July 14, 1742, aged eighty. To his latest hour, he could read the smallest Greek testament without spectacles. He died of a pleuritic fever.

BENTVOGEL SOCIETY, a celebrated society of Flemish painters, established at Rome, into which they received all of their own nation who came to reside at Rome, and desired to be admitted as members.

BENUM, } Be and num: num is
BENUMMEDNESS, { the past tense and past
 partiple of niman. Benumen, Saxon; to make
 torpid; to take away the sensation and use of
 any part by cold, or by some obstruction; to
 stupify.

So stings a snake that to the fire is brought,
 Which harmless lay, with cold benumbed, before.
Fairfax.

It seizes upon the vitals, and benums the senses;
 and where there is no sense, there can be no pain.
South.

Will they be the less dangerous, when warmth shall
 bring them to themselves, because they were once
 frozen and benumbed with cold?
L'Estrange.

These accents were her last: the creeping death
 Benumbed her senses first, then stopped her breath.
Dryden.

BENYOWSKY (Maurice Augustus, count de), a singular adventurer of the last century, a magnate of the kingdoms of Hungary and Poland, and one of the chiefs of the Polish confederacy in 1767. He was taken prisoner by the Russians, and sent in exile to Kamtschatka, where the governor entrusted to his care the education of his son and three daughters: the youngest of these fell in love with him, and her parents consented to the match. But the chief object of Benyowsky being the deliverance of himself and his fellow exiles, he scrupled not in effecting it to kill the governor, and was enabled to seize a vessel and sail from Kamtschatka, accompanied by ninety-six persons. Nothing more is heard of his wife except that she died the following September at Macao. There our adventurer entered into an engagement with the French East India Company, and proceeded with his companions to the Isle of France, whence he sailed for Europe in 1772, and, touching at Madagascar, arrived in France in the July of that year. The French ministry, approving his plan for a settlement, he embarked once more for the Isle of France and Madagascar, but the settlement at the latter place being inadequately supported, fell into great confusion, and Benyowsky abandoned it. Quitting the French service, he induced the natives to believe that he was a descendant of one of their kings formerly carried away to Europe, and was actually elected their chief. On this he sailed to Europe in a brig, which he had freighted for the Cape of Good Hope, to submit proposals for acquiring the aid and protection of Great Britain. He, however, failed in these endeavours, but induced several private

merchants to supply him with a vessel and merchandise to the value of £4000. Touching at the cape, and at Sofala on his return, he anchored at the bay of Atanagara in Madagascar, in July 1785, where he unloaded his cargo, on which those on board sailed away with the vessel and deserted him. Unintimidated by this disaster, he departed for his settlement of Angoneti, and soon had a body of natives under his command, with whom he attacked the French factory. His proceedings now induced the government of the Isle of France to send a ship with sixty regulars to Foulpoint. The count had constructed a redoubt, which he attempted to defend with two cannon, two Europeans, and thirty natives. The latter fled on the first fire, and Benyowsky, receiving a ball in the breast, fell behind the parapet, and in a few minutes afterwards expired. This bold and eccentric adventurer it is evident only wanted a wider theatre to make him a conspicuous subject of history. He met his death in May or June 1786.

BENZOATS, neutral salts composed of earths, alkalis, or metallic oxides, and benzoic acid; the principal are the following:—Benzoat of alumine has a sharp bitter taste, is soluble, deliquesces in the air, and forms dendritical crystals. Benzoat of ammonia is very soluble in water, deliquesces in the air, and forms, with difficulty, feather-shaped crystals. Benzoat of harytes is not alterable by exposure to the air. Benzoat of lime is, perhaps, the only one of these salts found native; it exists abundantly in the urine of cows, and has been discovered in that of some other animals among the herbivorous quadrupeds; it forms sweet tasted, white, shining, pointed crystals, soluble in cold, but more so in hot water. Benzoat of magnesia has a sharp bitter taste, and forms feather-shaped crystals. Benzoat of potash has a sharp saline taste, very soluble in water, deliquesces in the air, and is easily crystallisable in the form of pointed feathers. Benzoat of soda resembles the preceding, except that it effloresces in the air, and its crystals are larger. On account of the weakness of the affinity that benzoic acid has for the different substances with which it unites, benzoats may be decomposed by any of the strong acids.

BENZOIC ACID. This acid was first obtained from the resin which goes under the name of Benzoin, and was therefore called flowers of Benzoin, or Benjamin (see BENZOIN). It is now, however, known as a peculiar acid, not exclusively obtainable from the benzoin, but also to be procured from other vegetable balsams. It is found in Storax, in the Tolu and the Peruvian balsams, in cinnamon, in ambergris, in the urine of children, and, according to some chemists, in the urine of many graminivorous animals. Berzelius has shown it to be the main ingredient of that acid which is procured by the destructive distillation of tallow. It is supposed that very many vegetable substances contain this acid, and especially some of the grasses. Hence it is conjectured the source of its presence in the urine of the graminivora.

Ure, in the *Philosophical Transactions* of 1822, has stated the following as the composition of benzoic acid:—

Carbon . .	66.74
Oxygen . .	28.32
Hydrogen . .	4.94

100

The results of Berzelius's investigation on the same substance do not materially differ.

This acid was first, we are told, described in 1608 by Blaise de Vigenere in his treatise on fire and salt. 'The usual method of obtaining it,' says Dr. Ure, 'affords a very elegant and pleasing example of the chemical process of sublimation. For this purpose a thin stratum of powdered benzoin is spread over the bottom of a glazed earthen pot, to which a conical tall paper covering is fitted; gentle heat is then to be applied to the bottom of the pot, which fuses the benzoin and fills the apartment with a fragrant smell, arising from a portion of essential oil and acid of benzoin, which are dissipated into the air; at the same time the acid itself rises very suddenly in the paper head, which may be occasionally inspected at the top, though with some little care, because the fumes will excite coughing. This saline sublimate is condensed in the form of long needles, or straight filaments of a white color, crossing each other in all directions. When the acid ceases to rise, the cover may be changed, a new one applied, and the heat raised; more flowers of a yellowish color will then rise, which require a second sublimation to deprive them of the empyreumatic oil they contain.'

Scheele's method of procuring the benzoic acid consists in powdering a pound and a half of gum benzoin with four ounces of quicklime, and then boiling them for half an hour in a gallon of water, constantly stirring. When cold, the clear liquor is poured off, and what remains is boiled a second time in four pints of water, the liquor being poured off as before. The mixed liquids are to be boiled to one-half and filtered through paper: muriatic acid is now gradually to be added, until it ceases to produce a precipitate. The liquid is to be decanted off from this precipitate, the powder dried in a gentle heat, and sublimed into cones of white paper, from a proper vessel, placed in a sand bath.

The digestion of the benzoin in hot sulphuric acid has been recommended as the best method of procuring the benzoic acid crystals. 'If,' says Ure, 'we concentrate the urine of horses or cows, and pour muriatic acid into it, a copious precipitate of benzoic acid takes place; and this is the cheapest source of it. Fourcroy recommends employing the muriatic acid, to extract it from the water that drains out of dunghills, cow-houses, and stables.'

Benzoic acid has a very peculiar odor, which is not disagreeable: it is sweetish and hot to the taste; it reddens the color of litmus. It exists in the form of a light powder, crystallised in fine needles. Its specific gravity is 0.667. It is said to be so little alterable by the air as to have been kept in an open vessel twenty years without losing any of its weight. It is occasionally, but not very frequently, employed in medicine: it, however, enters into the composition of the compound tincture of camphor of the London Pharmacopœia.

For its combination with earths, alkalies, &c. see CHEMISTRY.

BENZO'IN, *n. s.* A medicinal kind of resin imported from the East Indies, and vulgarly called Benjamin. It is procured by making an incision in a tree, whose leaves resemble those of the lemon-tree. The best comes from Siam, and is called amygdaloides, being interspersed with white spots, resembling broken almonds.

Trevoux. Chambers.

The liquor we have distilled from *benzoin*, is subject to frequent vicissitudes of fluidity and firmness.

Boyle.

BENZOIN, or **BENJAMIN**. The tree which produces this substance is principally found in the island of Sumatra. Incisions are made into it in order that the juice may exude, which comes from the tree in the form of a thick balsam. It eventually changes to a reddish brown color. It is soluble in alcohol, but is precipitated from it by water. The specific gravity of this resin is 1.092. The opaque fluid formed by the admixture of water with the alcoholic solution of Benzoin is used by perfumers as a cosmetic under the name of *lac virginale*. Brande's products, as obtained by distillation from 100 grains of the resin, were benzoic acid nine grains, acidulated water 5.5, butyraceous and empyreumatic oil 60, brittle coal 22, and a mixture of carbonated hydrogen and carbonic acid gas, computed at 3.5. The oil afterwards was found to yield five grains more of the acid, making the proportion 14 to 100.

Benzoin is soluble also in ether, and in sulphuric and acetic acids. Solutions, likewise, of potash and soda dissolve it. Nitric acids act on it with violence, and a portion of artificial tannin is thereby formed. It is dissolved sparingly by ammonia.

BE'PAINT, *v. a.*, from paint; to cover with paint.

Thou knowest the mask of night is on my face,
Else would a maiden blush *bepaint* my cheek.

Shakespeare.

BE'PALE. Be and pale. See **PALE**.

BE'PEARL. Be and pearl. See **PEARL**.

BE'PEPPER. Be and pepper. See **PEPPER**.

BE'PLASTER. Be and plaster. See **PLASTER**.

BE'PLUME. Be and plume. See **PLUME**.

BE'POWDER. Be and powder. See **POWDER**.

BE'PRAISE. Be and praise. See **PRAISE**.

BETPROSE. Be and prose. See **PROSE**.

BE'PURPLE. Be and purple. See **PURPLE**.

BE'QUALIFY. Be and qualify. See **QUALIFY**.

BE'QUEATH, *Ang.-Sax. becwæthan.*

BE'QUEST, *v. & n.* } To announce; to declare

BE'QUEATHER, } the will or determination;

BE'QUEATHMENT. } a legacy by will.

She had never been disinherited of that goodly portion, which nature had so liberally *bequeathed* to her.

Sidney.

Then weete ye, sir! that we two brethren be,

To whom our sire, Milesio by name,

Did equally *bequeath* his lands in fee,

Two islands, which ye there befores you see.

Spenser.

Them therefore as *bequeathing* to the winde,
I now depart, returning to thee never,
And leave this lamentable plaint behinde.
But doo thou haunt the soft downe-rolling river,

And wilde greene woods, and fruitful pastures minde;
And let the fitting aire my vaine words sever. *Id.*

Let's choose executors, and talk of wills;

And yet not so—for what can we *bequeath*,

Save our deposed bodies to the ground.

Shakespeare.

Methinks this age seems resolved to *bequeath* posterity somewhat to remember it.

Glanville.

For you whom best I love and value most,

But to your service I *bequeath* my ghost.

Dryden's Fables.

He claimed the crown to himself; pretending an adoption, or *bequest*, of the kingdom unto him by the Confessor.

Hale.

BEQUIERES, **BEQUIRES**, or **ABOUKIR**, an island and bay on the coast of Egypt, at the mouth of the Nile, near which admiral Nelson gained, over the French fleet, one of the most complete victories which adorn the annals of Britain.

BER, in botany, a name used by some authors for the Indian jujube; that species of the jujube tree, on which the gum lacca of the shops is usually found.

BERA, king of Sodom, contemporary with Abraham, who had his country terribly ravaged by Chedorlaomer and his allies.

BERA, a district in the island of Celebes, on the east coast, extending from the river Bampang to the point of Lassoa. It was ceded to the Dutch by the rájàh of Bony. Much of it is unproductive, but it affords pretty good small ship timber. The most wealthy inhabitants are merchants, and ship builders. There is also a species of cloth manufactured here from the cotton of the district.

BERABZAN, a long lake in New North Wales, lying north and south, and narrowing gradually to the south till its waters join those of Lake Shechary, and form Seal River, which falls into Hudson's Bay, at Churchill Fort.

BE'RAIN. Be and rain. See **RAIN**.

BERAMS, a coarse cloth, made with cotton thread, which comes from the East Indies, and particularly from Surat.

BERAR, a soubah of the deccan of Hindostan, bounded on the north by Malwa and Allahabad, east by Gundwana, south by Aurungabad and the Godavery, and east by Khandish and Allahabad. Its limits are inaccurately defined; but, including the small modern province of Nandere, which properly belongs to it, the length may be estimated at 230 miles, by 120 the average breadth. Less is known of the interior parts of Berar than of most of the other countries of Hindostan. Nagpoor has been generally called the capital; but that town is in fact in the neighbouring province of Gundwana. The capital of Berar is Ellichpoor. The country in general is elevated and hilly, abounding in strong holds; some of which, as Gawelghur, were thought impregnable, until taken by our army under the intrepid Wellesley. The principal rivers are the Godavery, Tuptee, Poornah, Wurda, and Kaitna. Yet, though well supplied with water, Berar as a whole is but little cultivated, and thinly inhabited. The cultivated parts produce rice, barley, wheat, cotton, opium, sugar, and a little inferior silk. The Berar bullocks are reckoned the best in the Deccan. The

principal towns are Ellichpoor, Gawelghur, Narnallah, Poonar, Nandere, and Patery. Three-fourths of the province are included within the territories of the Nizam, and the remainder is either occupied by, or tributary to, the Nagpoor and Malwah Mahrattas.

BERAT, or **ARNAUTH BELGRADE**, a town of Albania, in European Turkey, with 12,000 inhabitants, the capital of a pachalic. It is on the site of the ancient Eordea, on the river Kevroni, (the Apsus of the ancients), forty miles north-east of Aulona.

BERATE. Be and rate. See **RATE**.

BERAT'TLE. Be and rattle. See **RATTLE**.

BERBER, in the plural *Beräber*, pronounced *Bräber*, in Africa, a people spread over nearly the whole of Northern Africa. The appellation of *Barbary* is said to be derived from them (see **BARBARY**), and they are perhaps the descendants of the ancient Numidians, whose country they occupy. Mount Atlas is their principal abode; to the south they are bounded by the Negro states and the edge of the great Sahara.

BERBERII, in medicine, a name given by some to the psaly.

BERBERINA, in entomology, a species of tipula; wings, sooty, incumbent; the base and marginal spot white; the thorax and abdomen red: it feeds on the barberry, and forms small stromous excrescences on the branches.

BERBERINA, in natural history, a species of vorticella, of a simple oval form, with a branched rigid stem and white granulations. This is *vorticella composita*, *floribus ovalibus muticis*, *stirpe ramosa* of Linn. *Brachionus berberiformis* of Pallas; and *Pseudopolypus beriformis* of Resel. Found in fresh water in Europe; usually in clusters.

BERBERIS, in botany, the barberry, or piperidge bush. A genus of the monogynia order and hexandria class of plants; the characters of which are: **CAL.** consisting of six leaves; the petals six, with two glands at the ungues; no stylus; the berry two-seeded. The species are three, viz. 1. *B. Canadensis*, is a native of that country from whence it takes its name, and formerly common in British gardens. 2. *B. cretica*, with a single flower in each footstalk, at present very rare in Britain; the plants being tender whilst young, and most of them killed by severe frost. It rises three or four feet high, but sends out many stalks from the root, which are strongly armed with spines at every joint: 3. *B. vulgaris*, the common barberry, grows naturally in hedges in many parts of England and some parts of Scotland; but is also cultivated in gardens on account of its fruit, which is pickled and used for garnishing dishes. The berries, which are so acid that birds will not feed upon them, are moderately astringent; and have been given with success in bilious fluxes, and diseases proceeding from heat, acrimony, and thinness of the juices. Among the Egyptians barberries are used in fluxes and in malignant fevers. The roots boiled in ley, dye wool yellow. In Poland they dye leather of a most beautiful yellow with the bark of the root. The inner bark of the stems dyes linen of a fine yellow with the assistance of alum. This shrub should never be per-

mitted to grow in corn lands; for the ears of wheat that grow near it never fill, and its influence in this respect has been known to extend across a field of 300 or 400 yards. Cows, sheep, and goats eat it; horses and swine refuse it.

BERBICE, a river of South America, in the colony of that name, which rises about 100 miles from the coast, and, after a circuitous course, flows into the Atlantic, in the seventeenth degree of north latitude, and fifty-eighth of west longitude. It is a broad stream, generally shallow, with a bar in the sea five miles from its mouth. It is, however, capable of admitting vessels which draw fifteen or sixteen feet of water to Fort Nassau, about fifty miles above its mouth: about a mile from the sea it receives the Canje. The country along its banks is low and flat, but has numerous sugar plantations.

BERBICE, a district and colony of Guiana, named after the preceding river, extends nearly 300 miles from the sea. When the colony in 1796 came into possession of the English, the coast was regularly surveyed, and laid out into two parallel lines of estates, with a navigable canal between them. The river Canje flows behind the second both banks of which are cultivated to a considerable height up the country. The line of estates facing the sea are called the coast estates, the second line consists of the canal estates, and those behind are called the Canje estates. The capital is **NEW AMSTERDAM**, which see.

The chief product of the coast estates is cotton, but the most valuable are those which are adapted to the growth of sugar. The agricultural laborers are chiefly slaves: about 200 are generally employed on an estate which produces an annual average of 140,000 cwt. of coffee, and 10,000 cwt. of cocoa. Besides sugar, coffee, cocoa, tobacco, cotton, and arnotta, are cultivated here. This last was managed exclusively for a long time by the native Indians, who macerated the seed in the juice of lemons, mixed with the dissolved gum of the manna tree, and thus produced a celebrated crimson paint, with which the Indians adorn themselves. The arnotta is now cultivated by the European settlers as a dye-stuff. The population of this colony, according to Mr. Bolingbroke, was, in 1805, 2500 whites, 1000 free people of color, and 40,000 slaves; making a total of 43,500 individuals.

In 1815 a paper returned to the House of Commons, gives the following population:—

Whites	550
Colored people	240
Black	25,169

25,959, making, as compared with Mr. B.'s account, a vast decrease. The climate is certainly very unhealthy, from excess of moisture; but the heat is not usually so great as the latitude alone would lead us to expect. Fahrenheit's thermometer seldom rises above 90°, and in general during May, June, and July, it is a little above 80°. The lowest point to which it descends at any season is 75°: but changes of weather take place very suddenly.

The exports and imports of Berbice,

		Imports.	Exports.
In 1809	{ were }	£193,663	£49,662
1810	{ valued at }	191,566	51,785

In the years ending the 5th of January, there were imported into Great Britain from Berbice, of rum,—

	1810.	1811.	1812.	1813.
Gallons,	20,355	6193½	1866	23,139

And, in the year ending 5th of January 1813, there was imported of sugar 9084 cwt. In 1819 the exportation of cocoa from the colony amounted to 17,665 cwt. and in 1810, to 22,582 cwt. In the former year the exportation of cotton was 1,874,195 lbs.; and, in the latter year, 1,656,057 lbs. By 56 Geo. III. (1816), c. 91, Berbice is placed on the same footing in relation to the regulations of trade, as the British West India islands. The subjects of the king of the Netherlands, who are proprietors in Berbice, may import into it from the Netherlands the usual articles of supply for their estates, but not for trade; wine imported for the use of their estates, to pay a duty of 10s. per ton. The Dutch proprietors may export their produce, but not to Britain; both exports and imports to be in ships belonging to the Netherlands, the duties to be the same as those payable by British proprietors. The principal commerce of the colony being with the Netherlands, no official returns of the exports and imports have been lately published in this country. See AMERICA, SOUTH, for a general account and history of the British possessions here.

BERCARIA, BERQUERIA, or BERKERIA, in writers of the middle age, denotes a sheep-fold, or sheep-cote, for the safe keeping a flock of sheep. The word is abbreviated from *berbicaria*; of *berbex*, detorted from *vervex*. Hence also a shepherd was denominated *berbicarius* and *berquarius*.

BERCHEM, or BERGHEM (Nicholas), a painter, born at Haarlem in 1624. He was instructed by several eminent masters; and added to their fame. His cattle and figures are justly held in high estimation; and many of them have been finely engraved by Visscher.

BERCHEROIT, or BERKOITS, a weight used at Archangel, and in all the Russian dominions, to weigh such merchandises as are heavy and bulky. It is about 364lbs. English avoirdupois weight.

BERCHET (Peter), an eminent historical painter, was born in France in 1659, and at the age of eighteen was employed in the royal palaces. He came to England in 1681, to work under Roubour, a French painter of architecture; but, after staying a year, returned to Marli. He came again, and was sent by King William to the palace he was building at Loo, where he was employed fifteen months; and then came a third time to England, where he had considerable business. Mr. Walpole says, that he then painted the ceiling of the chapel of Trinity College, Oxford, the staircase at the duke of Schomberg's in Pall-mall, and the summer-house at Ranelagh. His drawings in the academy were much approved.

Towards the close of his life he retired to Mary-le-bonne, and died in 1720.

BERCHTOLSGADEN, a town and principality of Germany, thirteen miles south-west of Saltzburg. The district is mountainous, containing six towns and twenty villages. Fossil salt, of which 87,000 quintals are produced annually, is the chief article of trade. The town of Berchtolsgaden contains about 3000 inhabitants. There is a small manufacture of bone and wooden toys here.

BERCIUS, an ancient Briton, unworthy of the name, who urged the emperor Claudius to invade his native country.

BERDA, in ichthyology, a species of sparus, inhabiting the Red Sea. It is of a whitish gray; lateral scales, marked in the middle with a single transverse brown band; dorsal spines recumbent. The body of this fish is oval; back gibbous, with pale bands; white beneath, scales broad, entire. The crown is naked, sloping; iris, white; nostrils, large; four long, conic, sublate, teeth; grinders, numerous, hemispherical, those behind largest; upper lip, long; gill-covers, entire; lateral line, nearest the back; fins, brown; pectoral ones transparent and lanceolate; tail, two-lobed.

BERDASH, in antiquity, was a name formerly used in England for a certain kind of neck-dress; and hence a person who made or sold such neck-cloths was called a *berdasher*, from which is derived the word *haberdasher*.

BERDOA, a town of Persia, in Erivan, seated in a fertile plain, ten miles west of the river Kur, and sixty-two south by east of Gan-gea.

BEREA, BERCEA, or BERRHEA, in ancient geography, a noble city of Macedonia, situated near Pella, the birth-place of Alexander the Great. In this town St. Paul preached with great success.

BEREANS, in ancient church history, the inhabitants of Berea. They are highly commended in scripture for their ready reception of the gospel, upon a fair and impartial examination of its agreement with the Old Testament prophecies.

BEREANS, in modern church history, a sect of Protestant dissenters from the church of Scotland, who take their title from, and profess to follow the example of the ancient Bereans, in building their system of faith and practice upon the scriptures alone, without any regard to human authority.

The Bereans agree with the great majority of Christians, both Protestants and Catholics, respecting the doctrine of the Trinity; which they hold as a fundamental article of the Christian faith; and they also agree in a great measure with the professed principles of both our established churches, respecting predestination and election, though they allege, that these doctrines are not consistently taught in either church. But they differ from other sects, 1, In rejecting all natural religion; 2, in their opinion of faith, holding it to be a simple credence of God's word, but always accompanied with the personal assurance of salvation; 3, they consider unbelief the sin against the Holy Ghost; and 4, they

interpret almost all the Psalms as expressly typical or prophetic of Jesus Christ, in which last point they seem to agree with the Hutchinsonians.

The Bereans first assembled as a separate society of Christians in the city of Edinburgh, in autumn 1773, and soon after in the parish of Fettercairn, their principal leader and founder being a Rev. Mr. Barclay, a seceder from the Scottish church. Their doctrine has found converts in various places of Scotland, England, and America.

BE'REAVE, } Be and reave. Ang.-Sax.
BEREAVE'MENT, } *reafian, bereafian*, to strip
BE'REFT. } of; to deprive of. It has generally the particle of before the thing taken away.

He nigh them drew, to stay the avenger's force;
And can inquire how was that steed *bereaved*,
Whather by might extort, or else by slight deceived.

Spenser.

Swift running rivers still did stand,
And the wild beasts their furie did withhold,
To follow Orpheus' musick through the land;
And the oakes, deep grounded in the earthly mold,
Did move as if they could him understand;
And the shrill woods, which were of sense *bereaved*,
Through their hard bark his silver sound received.

Id.

All your interest in those territories
Is utterly *bereft* you, all is lost. *Shakspeare.*

Madam, you have *bereft* me of all words,
Only my blood speaks to you in my veins. *Id.*
That when thou comest to kneel at Henry's feet,
Thou mayest *bereave* him of his wits with wonder.

Id.

Bereave me not,
Whereon I live! thy gentle looks, thy aid,
Thy counsel, in this uttermost distress. *Milton.*
The chief of either side *bereft* of life,
Or yielded to the foe, concludes the strife.

Dryden.

BERECYNTHIUS, in entomology, a species of papilio, with the wings entire, black above, with a yellow margin, and six ocellar spots under the posterior pair. This is the papilio *berecynthia* of Cramer, and inhabits Surinam.

BEREGH, a town and county of Hungary, on the north bank of the Theyss, containing together a population of 46,000 persons. There was formerly a castle of the same name in the neighbourhood. It is separated from Galicia by the Carpathian mountains.

BEREGONIUM, in ancient geography, a city of Caledonia, in Argylshire, said to have been the capital of Scotland, but of which scarce a vestige now remains. It stood between two hills, in the district of Ardchattan, and the common people believe it to have been destroyed by fire from heaven.

BERELLY. See BAREILY.

BERENGARIANISM, an appellation given, by ecclesiastical writers, to the opinion of those who deny the reality of the body and blood of Christ in the eucharist. The denomination took its rise from Berengarius, who, about A. D. 1035, maintained that the bread and wine, after consecration, do not become the true body and blood of our Lord, but only a figure and sign thereof. Berengarianism was strenuously opposed by Lanfranc, Guitmond, Adelmannus, Albericus, &c.;

and synods were held, wherein the author was condemned at Rome, Versailles, Florence, Tours, &c. He retracted, and returned again to his opinion more than once; signed three several Catholic confessions of faith; in the second, third and fourth councils of Rome: but still relapsed, to his former opinions when the storm was over; though Mabillon maintains, and seemingly on good grounds, that he died an orthodox Catholic.

BERENICE, daughter of Ptolemy Auletes king of Egypt, succeeded her father before his death. This banished prince implored the assistance of the Romans, and Pompey restored him. Berenice, to support herself on the throne, allured a prince, whose name was Seleucus, descended from the kings of Syria, and admitted him to her nuptial bed, and to her sceptre. She was soon weary of him, and put him to death. She next cast her eye on Archelaus, who married her, and put himself at the head of her troops to repulse the Romans. He was killed in battle. Ptolemy returned to Alexandria, and put his rebellious daughter Berenice to death.

BERENICE, queen of Ptolemy Euergetes, king of Egypt, cut off her hair in pursuance of a vow, and consecrated it in the temple of Venus. This being afterwards lost, Conon the mathematician, in compliment to her, declared that the queen's locks had been conveyed to heaven, and composed those seven stars near the tail of the bull, called to this day coma Berenices, or Berenice's hair.

BERENICE, the daughter of Costobarus and Salome, sister to Herod the Great, was married first to her cousin Aristobulus, son of Herod and Mariamne. He having a brother who married the daughter of Archelaus king of Cappadocia, often upbraided Berenice that he had married below himself in wedding her. Berenice related all these discourses to her mother, and exasperated her so furiously, that Salome, who had much power over Herod's mind, made him suspect Aristobulus, and was the principal cause that urged this cruel father to get rid of him. She married again; and having lost her second husband, went to Rome, and got into the favor of Augustus. But, above all, she insinuated herself into the good graces of Antonia, the wife of Drusus, which in the end proved of great service to Agrippa.

BERENICE, the grand-daughter of the preceding, and daughter of Agrippa I. king of Judea, was betrothed to one Marcus, but he died before the marriage. Soon after, she married her uncle Herod, who, at the desire of Agrippa, both his brother and father-in-law, was created king of Chalcis by the emperor Claudius. She lost her husband in the eighth year of the emperor Claudius; and, in her widowhood, it was rumored she committed incest with her brother Agrippa. To put a stop to this report, she offered herself in marriage to Polemon king of Cilicia, provided he would change his religion. He accepted her offers, was circumcised, and married her. Berenice soon left him, and he abandoned Judaism to return to his former religion. She was always on good terms with her brother Agrippa, and seconded him in his attempt

to prevent the desolation of the Jews. She brought Titus into her snares; but the murmurs of the Roman people hindering her from becoming his wife, she was contented with the title of mistress to the emperor. The French stage, in the seventeenth century, resounded with the amours of Titus and Berenice.

BERENICE, in ancient geography, the name of several cities, particularly of a celebrated port town on the Sinus Arabicus; now called SUEZ, which see.

BERENICE'S HAIR, or COMA BERENICES, a constellation of the northern hemisphere, containing, according to the ancients, but seven stars; but, in the Berlin catalogue, forty-eight. It is in a triangular form, near the tail of Leo.

BERESFORD'S ISLANDS, supposed to be the same which Perouse calls the Sartine Islands, a group of islands in the North Pacific Ocean, and so called by captain Dixon. Long. 129° 57' W., lat. 50° 52' N.

BERESINA, or BEREZINA, a river of White-Russia, rising near Polozk, and traversing the government of Minsk, in which it gives its name to a small town, forty-four miles north-east from Minsk. It finally falls into the Dnieper, near the town of Strzesno; and will be ever memorable for the total defeat of the French on its banks, during their retreat from Moscow in 1812.

BEREZOV, a large town of Siberia, on the Soswa, a few miles above its confluence with the Ob. It is the most northern station in Siberia in which the horse can live in health; and has three stone churches and a chapel. It supplies Tobolsk with dried fish in summer, and frozen fish in winter. The inhabitants, who are chiefly Cossacks, subsist by hunting, fishing, and a small commerce in furs.

BER-FISCH, in ichthyology, a name given by the Germans to the common perch.

BERG, a duchy of Germany, in the circle of Westphalia, belonging to Prussia. It is bounded on the north by the duchy of Cleves, on the east by the county of Mark and the duchy of Westphalia, on the south by Wetteravia, and on the west by the diocese of Cologne, from which it is separated by the Rhine. It is about 150 miles in length, and twenty-four in breadth. It is very fruitful along the Rhine, but mountainous and woody towards the county of Mark. Among the various territorial exchanges to which Prussia was forced to accede, in the disastrous war of the French revolution, the duchies of Berg and Cleves were transferred to France. This valuable acquisition Buonaparte then conferred on general Murat, with the title of Duke of Cleves and Berg; but it was re-assigned to Prussia, by the congress, in 1815; and now contains an area of nearly 1200 square miles, with a population of 295,000 individuals. Iron, copper, lead, and quicksilver, are found here, and give employment to a great number of the inhabitants: the manufactures include iron, steel, linen, woollen, cotton, and silk; and are said to be very flourishing.

BERG, a county of the Netherlands, in Guelderland, district of Zutphen. The chief town, a small place, is likewise called Berg.

BERGAMASCO, a province of Italy, late in the territory of Venice, but now belonging to

Austria. It is bounded on the east by the Brescian, on the north by the Valteline, on the west and south by the Milanese. It extends about thirty-six leagues from north to south, and thirty from east to west. It is watered by several rivers, which render it very fertile, and produces great quantities of chestnuts. The northern part, which is mountainous and barren, has mines of iron, and quarries of marble, and other stones. There are a great number of villages, but Bergamo the capital is the only city. Around it is a fertile country in wine. The people are said to be very industrious. They are well stocked with cattle, and make fine tapestry. This province was included in the Italian republic, and divided into two departments, viz. that of Serio, and that of the Adda and Oglio. Its population is about 360,000.

BERGAMO, anciently Bergomum, a considerable town of Northern Italy, the capital of the preceding province. It was built by the Gauls, and stands on ten small hills, in the form of an amphitheatre. It is fortified with walls, bastions, and ditches, besides two castles. To one there is a covered passage from the city. It is said to be seven Italian miles in circumference, and has thirteen parish churches, besides convents, seven hospitals, and 25,000 inhabitants. Before the revolution it was the see of a bishop: the cathedral is a noble structure. Here is also a fine palace, called the Fiera, built in the form of a quadrangle, and containing 500 apartments. In the square within it a great fair is annually held, and it has a marble fountain in the centre. The chief trade is in silk, fine and coarse cloths, camlets, spices, and drugs. It is chiefly supplied with its grain from the Milanese and other parts of Lombardy. After suffering greatly in the wars of the Guelphs and Gibellines, this city was in the twelfth century governed by its own princes. In 1509 Louis XII. seized upon it, but it was soon restored to the Venetians. After Buonaparte had taken it, in 1796, it became the capital of the department of Serio, in the Cisalpine Republic. It lies twenty miles north-west of Brescia, and thirty north-east of Milan. Long. 9° 47' E., lat. 45° 46' N.

BERGAMO (James Philip de), an Augustin monk, born at Bergamo in 1434, wrote in Latin a Chronicle from the creation of the world to the year 1503, and a treatise of Illustrious Women. He died in 1518.

BERGAMOT, in commerce, a coarse tapestry, manufactured with flocks of silk, wool, cotton, hemp, ox, cow, or goat's hair, and supposed to be invented by the people of Bergamo in Italy.

BERGAMOTS are a species of citron (*citrus medica*), produced at first casually by an Italian grafting a citron on the stock of a bergamot pear tree, whence the fruit produced by this union participated both of the citron and the pear. The fruit has a fine taste and smell, and its essential oil is in high esteem as a perfume.

BERGANDER, in ornithology, a name by which some have called the *anas tadorna*, shieldrake, or burrough duck; a beautiful species of duck, common on the coasts of Lancashire.

BERGAS, or BERGASE, a town of Romania

in European Turkey, the see of a Greek archbishop, seated on the Larissa.

BERGEL, or **MARKTBERGEL**, a large market town in the kingdom of Bavaria, circle of the Rezat, belonging formerly to the principality of Bayreuth, in Franconia.

BERGEN, anciently *Bergi*, a city of Norway, the capital of *Bergenhuus*. It is the see of a bishop, and has a strong castle and a good port. It is a large place; but is subject to fires, being all built of wood. It stands in a deep bay, surrounded with mountains almost inaccessible; the corn consumed is almost all imported; a miscellaneous commerce, and the fisheries, occupying the chief attention of the inhabitants: 12,000 barrels of herrings have of late been exported annually. Other exports are copper, iron, pitch, tar, and hides. The imports, besides grain, are wine, salt, sugar, coffee, tea, and hardware. Population about 15,000. It is 200 miles north-west of Gottenburg, and 350 north by west of Copenhagen.

BERGEN, a town and island of the Baltic, now subject to Prussia. It is the residence of a governor, and is protected by a castle. Here is also a convent of noble nuns, and a population of about 1600 persons. Thirteen miles north-east of Stralsund.

BERGEN, a town of Holland, noted for two bloody battles, on the 19th of September and 2d of October, 1799, between the English and Russian forces, and the Dutch and French, which terminated in favor of the former. It is situated among woods, four miles north-east of Alkmaer.

BERGEN, a mountainous and rough county of New Jersey, bounded on the east by Hudson River, which separates it from the state of New York, north-west by Sussex, south-west by Pegunnock river, which divides it from Morris county, and Pasaick river, which separates it from Essex, north-east by the state of New York, and south by Arthur Kill, or Newark Bay, which divides it from Staten Island. It is thirty miles in length and twenty-five in breadth, divided into six townships. In this county is a mine of copper ore, which has of late been wholly neglected. The chief town is Hakensack.

BERGEN, a town of New Jersey, situated in the preceding county, about three miles west by north of New York city. It is regularly laid out, and contains a reformed Dutch church. It is ninety-two miles north-east of Philadelphia.

BERGENHUUS, the most western province of Norway, very mountainous and barren, sometimes called the bishopric of Bergen. It is divided into fifty-four parishes, but contains few towns beside the capital.

BERGEN-OP-ZOOM, a territory and cidevant marquissate of Dutch Brabant, consisting of a considerable tract of land, containing several villages, besides the town, and some islands in the Scheldt.

BERGEN-OP-ZOOM, a town and fortress of Dutch Brabant, in the above territory; seated on an eminence, in the middle of a morass, about a mile and a half from the eastern branch of the Scheldt, with which it has a communication by a navigable canal. The houses are well built, and the market-places and squares handsome and spacious. The

church, before the last siege, was reckoned a fine edifice. It is very advantageously situated on the confines of Brabant, Holland, Zealand, and Flanders; and is so strong by nature, as well as by art, as to have been reckoned impregnable. The fortifications were the master-piece of that great engineer Cohorn. This place has been the scene of various military operations. In 1588 it was gallantly defended by lord Willoughby against the duke of Parma; and again in 1605. In 1622 it was defended by the Dutch and French against the Spaniards, under Spinola, who lost 10,000 men before it. In 1638 it was again defended by the Dutch against the Spaniards; but in 1747, the French, under count Lowendahl, obtained possession of it from the Dutch, with the loss of 20,000 men. This town was among the conquests of the French republic in 1795; and garrisoned by France during the war. In 1814 Sir Thomas Graham made an unsuccessful attack upon it with a division of the British army. It is eighteen miles north of Antwerp, and contains about 8000 inhabitants.

BERGERA, in botany, a genus of plants, class decandria, order monogynia. *CAL.* five-parted: *COR.* five-petalled: *STIG.* turbinate; berry two-seeded; species one: a tree with a shaggy head; leaves ovate, lanceolate, unequal, slightly serrate; corymbs terminal and compound. A native of the East Indies.

BERGERAC, a town of France, in the department of the Dordogne, forty-eight miles east of Bourdeaux, on the great road from Auvergne to Bourdeaux. It stands on the east side of the Dordogne, in a beautiful and fertile valley. Before the reign of Louis XIII. it was a much more considerable place than it is at present: when the edict of Nantes was revoked it contained not less than 40,000 Calvinists. This measure was the destruction of its prosperity: the inhabitants, at a late enumeration, were only 8665; but it is still defended by a castle, and has a confined trade in brandy, wine, corn, and chestnuts. It has also manufactures of paper, earthenware, and woollen stuffs.

BERG-GRUIN, in natural history, the name of an earth used in painting, and properly called green ochre, though not known among the color-men under that name. It is found in many parts of Germany, Italy, and England, commonly in the neighbourhood of copper mines, from particles of which metal it receives its color.

BERGHAUSEN, a town of Germany, in the late province of Wetteravia, and circle of the Upper Rhine.

BERGHMOT, **BERGHMOTE**, or **BERGHMOTH**, vulgarly *Barmote*; from *berg*, Sax. a hill, and *moë*, a meeting; a court held on a hill for deciding pleas and controversies among the miners of England in Saxon times.

BERGLIA, in botany, a genus of plants, class decandria, order pentagynia. *CAL.* quinque-partite: *PET.* five: *CAPS.* globular, with five protuberances, five-celled, and five-valved: *SEEDS* numerous: species two. 1. *B. aquatica*, native of India. 2. *B. glomerata*, native of the Cape.

BERGMAN (Sir Torbern), a celebrated chemist and natural philosopher, was born in 1735 at Catherineberg in West Gothland. His

father was receiver-general of the finances, and had destined him to the same employment; but nature had designed him for the sciences. To them he discovered an irresistible inclination from his earliest years. His first studies were confined to mathematics and physics: and the efforts that were made to divert him from science having proved ineffectual, he was sent to Upsal with permission to follow the bent of his inclination. Linnæus at that time filled the whole kingdom with his fame. Instigated by his example, the Swedish youth flocked around him; and accomplished disciples leaving his school, carried the name and the system of their master to the most distant parts of the globe. Bergman was struck with the splendor of this renown; he attached himself to the man whose merit had procured it, and by whom he was very soon distinguished. Applying himself first to the study of insects, he made several ingenious researches into their history; and, among others, into that of the genus *tenthredo*, so often and so cruelly preyed upon by the larvæ of the ichneumons, that nestle in their bowels and devour them. He discovered that the leech is oviparous; and that the *coccus aquaticus* is the egg of this animal, from whence issue ten or twelve young. Linnæus, who had at first denied this fact, was struck with astonishment when he saw it proved. *Vidi et obstupui!* he exclaimed, and wrote it in the memoir when he gave it his sanction. Mr. Bergman soon distinguished himself as an astronomer, naturalist, and geometrician; but these are not the titles by which he acquired his fame. The chair of chemistry and mineralogy, which had been filled by the celebrated Wallerius, becoming vacant by his resignation, Mr. Bergman was among the number of the competitors; and without having before this period paid any particular attention to chemistry, he published a memoir on the preparation of alum that astonished his friends as well as his adversaries. Being elected, after considerable opposition, he had now the hard task of satisfying the hopes conceived of him. He did not follow the common track in the study of chemistry. As he had received the lessons of no master, he was tainted with the prejudices of no school. He applied himself to experiments without paying any attention to theories; repeating those often which he considered as the most important and instructive. He first introduced into chemistry the process by analysis; and his views in this respect have been adopted by most modern chemists of eminence. The productions of volcanoes had never been analysed, when Messrs Ferber and Troil brought a rich collection of these into Sweden. At the sight of them Mr. Bergman conceived the design of investigating their nature. He examined first the matters least altered by the fire: he followed them in their changes progressively, imitating their more complicated appearances. In his laboratory, he observed the process of nature; the combat of flames and explosions; the chaos in which the elements seem to clash with, and to confound, one another. The continual application of Mr. Bergman to these studies having affected his health, he was advised to interrupt them if he wished to prolong his life: but he

found happiness only in study, and wished not to forfeit his reputation by a few years more of inactivity and languor. He exhausted his strength, and died in June 1784. The university of Upsal paid the most distinguished honors to his memory; and the academy of Stockholm voted a medal. Dr. Cullen says, 'No name is more illustrious in the annals of chemistry than Bergman's:—no one has contributed more than he to the rapid advancement which this science has made in the present century. Nor has any other philosopher applied the principles of Lord Bacon with greater skill or attention in the investigation of nature. Ardent enthusiasm, and patient assiduity in the pursuits of science; candour, modesty, clearness of judgment, and comprehension of mind; qualities, the union of which constitutes the true philosopher, appear to have been happily conjoined in this great man. The number and the accuracy of his experiments, the simplicity and ingenuity of his processes, the beauty and plausibility of his theories, command the admiration and respect of every intelligent reader of his works.' These are, 1. *A Physical Description of the Earth*, two vols. 8vo. 1770—1774; translated into the Danish, German, and Italian languages. 2. *Various Eloges of the Members of the Academies of Stockholm*. 3. *An edition of Scheffer's Physic*. 4. *Opuscula Physica et Chemica, 1779—1790*; part of which was translated by Dr. Cullen, under the title of *Physical and Chemical Essays*, 2 vols. London, 1786.

BERGMANNIA, in entomology, a species of phalæna tortrix: wings pale yellow; fasciæ of whitish tint, the third bifid. This insect is found in Germany and the northern parts of Europe.

BERGMANNITE. A massive mineral of a greenish, grayish-white, or reddish color. Lustre pearly. Fracture fibrous, uneven, and slightly translucent on the edges. Scratches felspar. Fuses into a semitransparent enamel. It is found at Fredericksvarn in Norway, in quartz and felspar.

BERGOO, or **BERGU**, a considerable Negro state, called *Mobba* by the natives, *Dár Seleih* by the eastern, and *Wádái* by the western Arabs. It lies north-west of *Dár Fúr*, and it is dependent on *Bornú*; its sultan, about twenty years ago, effected the conquest of *Bagirmah*, by order of the sovereign of that state. The natives are chiefly Mahommedans, and live in circular reed huts, with conical roofs. But the king and some of the merchants have mud houses. The country is watered by the *Misselád*, a river which falls into the lake *Fitri*; but has few other permanent streams. *Natron* is the principal export; but chalk, rock-salt, and iron-ore, are found here. The capital is *Wárah*, a walled town, sixteen days distant from *Birmi*, the capital of *Bairnù*.

BERG-REICHENSTEIN-KASCHPER-SCHBE-HORY, a royal mining town of Bohemia, in the circle of *Prachin*, having 3000 inhabitants. It is seated on a mountain, which formerly contained gold and silver mines. In the town are several glass-houses. Twenty miles west of *Prachatitz*, and thirty-six W.S.W. of *Bechin*. Long. 13° 26' E., lat. 49° 6' N.

BERGSTADT, a market town of Moravia, in the circle of Olmutz. It had formerly considerable mines in the neighbourhood. Eighteen miles north of Olmutz.

BERG ST. VINOX, BERG ST. WINOX, or BERGUES ST. VINOX, a town of France, in the department of the North, the ci-devant Flanders. It is seated on the Colme, at the foot of a mountain, five miles from Dunkirk, and twenty-one from Ypres. The air is often very unwholesome, especially to strangers. The Colme serves instead of a canal to Hondschotte, St. Omer's, and Gravelines. There is likewise a canal to Dunkirk. The villages in its territory are famous for butter and cheese, of which they export great quantities. The population is about 5000.

BERHYME. Be and rhyme. See RHYME.

BERIA, BERIE, or BERRY, in old writings, seems to signify a large open field; and those cities and towns in England which end with that word, are built on plain and open places, as is proved by the learned Du Fresne, who observes that *beria Sancti Edmundi*, mentioned by Mat. Paris. sub ann. 1174, is not to be taken for the town, but for the adjoining plain. To this may be added, that many flat and wide meads, and other open grounds, are called by the name of berries and berry fields; thus the spacious meadow between Oxford and Iffley was, in the reign of king Athelstan, called *bery*; and though these meads have been interpreted demesne or manor meadows, yet they were truly any flat or open meadows that lay adjoining to any villa or farm.

BERIBERI, the name of a disease among the Indians: a species of palsy.

BERITH, a Hebrew word, which, in our version of the Scriptures, is translated covenant. The learned Catcott says the root of berith is bar or barr, to cleanse or purify; and in this sense it is used in Jer. ii. 22, and Mal. iii. 2, where it is translated soap. Some will have the substance designed in these two texts to be the kali, or salt wort, from the ashes of which soap is made; and others, after Rudbeck, make it to be the dye of the purple fish.

BERING'S STRAITS. See BEERING'S STRAITS.

BERKELEY (Dr. George), the celebrated bishop of Cloyne, was the son of a clergyman in Ireland, distinguished by his piety and learning. He was born at Kilcrin in 1684, and educated at Trinity College, Dublin, where he attained a fellowship. His first essays as a writer were published in the *Spectator* and *Guardian*, which he adorned with many pieces in favor of virtue and religion. His learning and virtues early introduced him to the acquaintance of many great and learned men; among others to that of the earl of Peterborough, Dr. Swift, and Mr. Pope. The earl made him his chaplain, and took him as his companion on a tour through Europe in 1714-15. During his absence he was elected a senior fellow of his college, and created D. D. per saltum. Upon his return, lord Burlington conceived a high esteem for him on account of his great taste and skill in architecture, an art which Mr. Berkeley had made his particular study while in Italy. He was recommended by this nobleman to the duke of Grafton, who took

him over to Ireland in 1721. In 1722 his fortune received a considerable increase from a very unexpected event. On his first going to London, in the year 1713, Dean Swift introduced him to the family of Mrs. Esther Vanhomrigh (the celebrated Vanessa), and took him often to dine at her house. Some years before her death, this lady removed to Ireland, and fixed her residence at Celbridge, a pleasant village in the neighbourhood of Dublin, most probably with a view of often enjoying the company of Swift. But finding herself totally disappointed, upon discovering the dean's connexion with Stella, she was so enraged at his infidelity, that she altered her intention of making him her heir, and left her whole fortune (near £8000) to be divided equally between Mr. Marshall, afterwards one of the judges of the court of common pleas in Ireland, and Dr. Berkeley, whom she had not seen for some years. In 1724 the doctor resigned his fellowship, being promoted by the duke of Grafton to the deanery of Derry. Some time before this, he had been projecting a benevolent plan for the better supplying the churches in our foreign plantations, and converting the natives of America to Christianity, by erecting a college in the *Bermudas*, or Summer Islands, which see. He was warmly engaged about the same time, in concert with Swift, Bolingbroke, and others, in a scheme for establishing a society for the improvement of the English language, in imitation of the academy of France. But Harley, the great patron of it, falling from power, this design proved abortive. In 1728 Dr. Berkeley married Anne, the eldest daughter of R. H. John Forster, Esq. speaker of the Irish house of commons; and almost immediately after passed over to America to found his college. On his arrival at Newport, in Rhode Island, he contracted for the purchase of lands for the purposed establishment, fully expecting that the money would, according to the charter he had obtained, be immediately paid. His expectations, however, were disappointed; and after various delays and excuses, he was at length informed by bishop Gibson, in whose diocese, as bishop of London, the whole of the West Indies was included, that upon application to Sir Robert Walpole, he received the following remarkable answer: 'If you put this question to me as a minister,' said Sir Robert, 'I must and can assure you, that the money shall most undoubtedly be paid as soon as suits with public convenience; but if you ask me as a friend, whether dean Berkeley should continue in America expecting the payment of £10,000, I advise him by all means to return home to Europe, and give up his present expectation.' Accordingly the dean, after having expended a great part of his private fortune, and more than seven years of his life, in the prosecution of so laudable a scheme, found himself compelled to return to England. In 1734 he was advanced to the bishopric of Cloyne. When the earl of Chesterfield was lord-lieutenant of Ireland, he made him an offer of the richer see of Clogher, but he declined it, saying, his neighbours and he loved one another, and he could not think of forming new connexions in his old days. In 1752, finding the infirmities of age come upon him, he asked leave

to resign his bishopric, and to obtain in lieu of it a canonry of Christ Church, Oxford. But the king declared he should die a bishop in spite of himself, giving him full liberty to reside where he pleased. His last act before he left Cloyne, was to sign a lease of the demesne lands in that neighbourhood, to be renewed yearly, at the rent of £200, which he directed to be distributed every year until his return, among poor house-keepers of Cloyne, Youghal, and Aghada. He now settled at Oxford, to superintend the education of a favorite son, and died there suddenly, on Sunday evening, Jan. 14th, 1753, as he was hearing his lady read a sermon of Dr. Sherlock's. His remains were interred at Christ Church, where there is an elegant marble monument erected to his memory. Pope sums up bishop Berkeley's character in one line. After mentioning some particular virtues that distinguished other prelates, he ascribes

'To Berkeley every virtue under heaven.'

His works are, 1. *Arithmetica absque Algebra*, aut *Euclidæ Demonstrata*, 1707. 2. *Theory of Vision*, 1709. 3. *The Principles of Human Knowledge*, 1710. 4. *Dialogues between Hylas and Philonous*. 5. *Three Sermons in Favor of Passive Obedience and Non-resistance*, 1712. 6. *A Proposal for Converting the Savage Americans to Christianity*, &c. 1725. 7. *The Minute Philosopher*, 2 volumes, 8vo. 8. *The Analyst*, written against the doctrine of fluxions and mathematics in general, as favorable to infidelity! *A Defence of Free-thinking in Mathematics*, 1735. 9. *The Querist*, 1735. 10. *A Discourse addressed to Magistrates*, 1736. 11. *Siris*; a Chain of Philosophical Reflections and Enquiries concerning the Virtues of Tar Water, 1744 and 1747; which was followed by *Further Thoughts on Tar Water*, 1752. In 1784 a new edition of the bishop's entire works was published in two volumes, 4to. Dublin and London.

BERKELEY, a small market town and beautiful vale of Gloucestershire, giving the title to an earldom; about a mile east from the Severn. A religious house existed here in Edward the Confessor's reign. In Berkeley Castle, founded by Roger de Berkeley, soon after the Conquest, Edward II. was cruelly murdered, September, 1327. The assassins were Sir John Maltravers and Sir Thomas Gourney, at the instigation of the queen and her paramour Mortimer. 'His cry,' says Holinshed, 'did move many within the castle and town of Birklei to compassion, plainly hearing him utter a wailful noyse, as the tormenters were about to murder him, so that dyvers being awakened thereby (as they themselves confessed), prayed heartilie to God to receyve his soule, when they understode by his cry what the matter ment.' An apartment called the dungeon room is still shown, in which the deed is said to have been perpetrated. Berkeley is the birth-place of Dr. Jenner, the discoverer of vaccine inoculation. It carries on a good trade in timber, coals, malt, and cheese, and is distant fifteen miles S. S. W. of Gloucester, nineteen N. N. E. of Bristol, and 113 west of London.

BERKELY, a fertile and populous county of Virginia, bounded on the east and north by Potomac river which separates it from the state of

Maryland, on the south-east by London county, on the south-west and west by Hampshire, and on the south by Frederic county. It is forty miles in length, and twenty in breadth. Chief town, Martinsburg.

BERKESZ, a free market town, the capital of a circle in the county of Zolnok, Transylvania. In it are several castles, and a Calvinistic church; most of the inhabitants are potters. The environs are rich in grapes, chestnuts, and fruits.

BERKESZ, a market town of Hungary, in the district of Kowar, on the borders of Transylvania, inhabited by aboriginal Hungarians.

BERKHAMSTEAD, or BARKHAMSTEAD, GREAT, a market town of Hertfordshire; formerly of more note than at present. The Romans called it *Durobrivæ*. On the north side of the town are the remains of a castle, which is said to have been once the residence of the kings of Mercia. In this town a parliament was held in 697; and here William the Conqueror, having been stopped by the inhabitants cutting down the neighbouring woods, swore to maintain the laws of his predecessors. Henry II. also for a while kept his court here. The children of James I. were nursed at Berkhamstead, and that prince made it a corporate town; but its privileges were lost in the civil wars. It is situate by the side of the river Gade and the Grand Junction canal, which run together in a line with the high road from Watford, to two miles beyond Berkhamstead. The town consists of one handsome broad street. The church is a large gothic structure, the roof supported by twelve pillars, ornamented with figures of the apostles. It has the remains of several chapels or oratories. The chief trade here is in bowl-turning, shovel and spoon making, &c. It lies nine miles from St. Alban's, and twenty-six north-west of London.

BERKHEYA, in botany, a genus of compound flowers, dedicated to the honor of Dr. John le Franq van Berkhey. Class and order, *syngenesia polygamia-frustranea*. Natural order *compositæ*. Ess. ch. *receptaculum cellular*. Seeds hairy. Crown chaffy, serrated or fringed. CAL. of one leaf, clothed with imbricated leafy scales. The species of this genus are confined to the Cape of Good Hope and its neighbourhood. They are generally perennial, often shrubby. They embrace Thunberg's whole genus of *robria*, and several of them have been referred by Linnaeus to *gorteria*, *atractylis*, or even *xeranthemum*.

BERKHEYDEN, or BRECKBERG (Job), was born at Haerlem in 1637. He studied landscape painting on the borders of the Rhine, and after he had made himself master of that style, practised the painting of figures, taking his models from husbandmen, shepherds, and innkeepers, whom he represented at their feasts, dances, conversations, &c. His pictures were well handled, and agreeably colored, and some of them are very highly esteemed. Having heard much of the munificence of the elector palatine, and finding it difficult to procure an introduction, he fixed upon a scheme, which fortunately answered his purpose. Having often observed the elector going out to the chase, he took particular notice of all the nobility in his train;

and then, in conjunction with his brother, finished two pictures, containing the portraits of the prince, and his principal attendants. When the pictures were finished, Berkheyden prevailed upon an officer of the household to place them in a gallery, through which his highness passed at his return. The prince no sooner observed them, than he expressed the greatest surprise and satisfaction at the performance; enquired after the artist, and ordering them to be brought into his presence, rewarded them nobly for their work. Job Berkheyden died in 1693.

BERKLEY, a township of Massachusetts, Bristol county, and fifty miles south of Boston.

BERKLEY, a town of South Carolina, the chief town of the county of the same name.

BERKLEY, a county of Virginia, which lies west of the Blue Ridge, north of Frederic county, and is separated from the state of Maryland on the north and east by Potomac river. It is about forty miles long, and twenty broad.

BERKLEY'S SOUND, a bay on the north-west coast of North America, on the east side of Quadra's Isles, seventy miles south-east of Nootka Sound.

BERKS, or BERKSHIRE, an inland county of England, which contains the whole of the ancient British principality inhabited by the Atribatii, who are supposed to have come originally from Gaul. When Constantine divided the island into Roman provinces, in 310, this principality was included in Britannia Prima, the first division, whose boundaries were the English channel on the south, and the Thames, and Severn on the north. On the establishment of the Heptarchy, this part of the country was included in the kingdom of the West Saxons. When Alfred, a native of Wantage in this county, divided England into counties, hundreds, and parishes, in 889; this division first received its appellation of Berocshire, or Berkshire. At the period of the conquest, Berkshire had a population of between 40,000 and 50,000. At present it is in the Oxford circuit, the province of Canterbury, and diocese of Salisbury. It is subject to an archdeacon, whose jurisdiction extends no further than the limits of the county, and divided into four deaneries, Abingdon, Newbury, Wallingford, and Reading. The general shape of it somewhat resembles the form of a slipper or sandal. Its boundaries are chiefly natural, and highly picturesque; the Thames meandering in a varied line along its northern and eastern sides, throws it into such an irregular form, that, while in some places it is nearly thirty miles in breadth, in others it is less than four. On the south, the hills of Surrey and Hampshire afford a charming variety of landscape; and from the eminences in its western extremity, the eye is gratified with many enchanting scenes in the adjoining counties of Gloucester, Oxford, and Wiltshire. It extends from 51° 19' to 51° 48' north latitude, and from 34½' to 1° 43' west longitude. Its extreme length from Old Windsor to Buscot is about forty-eight miles; and its extreme breadth from Witham to Sandhurst (which, by the way, is taking rather an oblique line,) about twenty-nine miles. Its circumference is nearly 208 miles.

From the report published by order of the

House of Lords in 1805, it appears that 'the area of Berkshire is 744 square statute miles, equal to 476,160 statute acres; the number of inhabitants on each square mile, containing 640 acres, is 147 persons, making a total of 109,368.' Dr. Beeke, professor of modern history in the university of Oxford, from the trigonometrical survey taken by order of government, makes Berks, including some insulated parts, to contain about 464,500 square acres, according to the following distribution:—

	Acres.
Arable land about	255,000
Meadows and dairy land in the vale	72,000
Sheepwalks, chiefly unenclosed	25,000
Other dry pastures, parks, &c.	30,000
Wastes, chiefly barren heaths	30,000
Woods, copses, &c.	30,000
Other space occupied by buildings, } courts, fences, roads, rivers, &c. }	27,500
Total	469,500

The great natural divisions of Berkshire are four. 1. The Vale, generally called the White Horse Vale, extending from Buscot to Streatley, and bounded on one side by the Thames, and on the other by the White Horse Hills, a continuation of the Chiltern range. 2. The Chalky Hills, which run nearly through the centre of the lower part of the county. 3. The Vale of Kennet. 4. The Forest division, commencing on the east of the Loddon, and extending the breadth of the county to Old Windsor. The principal rivers and streams are the Thames, the Kennet, the Loddon, the Lambourn, the Ock, the Aubourn, the Emme, and the Broadwater. Most topographical writers take notice of a peculiarity in the Lambourn, that its stream is always full in summer, and almost lost in winter; but Mr. Lysons denies this, and contends that it has throughout the whole year an equal fullness.

The substratum of this soil consists generally of chalk and calcareous matter, or of gravel, with clay at greater or less depths. The vale is remarkably fertile, and its prevailing soil, is a strong, gray, calcareous loam, in which vegetable mould is intimately mixed with cretaceous earth. Among the chalky hills, there are intermediate tracts of considerable fertility, where the superficial stratum is composed of vegetable mould, mixed with chalk, flint, and gravel. In general the hills form excellent sheepwalks, being covered with a fine turf. In the vale of Kennet gravel soils predominate, varying, however, considerably in their qualities, admixtures, and depths from the surface. In this district there is a peculiar kind of peat, which is equally valuable as fuel or manure. This has been defined by Kirwan as a 'stratification of fossil trees in all directions, mixed with a reddish or brownish-red slimy moss, formed of the carbonic particles of vegetables, and united with their astringent juices and calorific oleaginous fæculæ.' Sir Humphrey Davy found it to consist of

Oxide of iron	48
Gypsum	32
Muriate of sulphur and potash	20

The northern parts of the forest district have a gravelly soil, diversified by strong loam and clay; the central parts a tenacious clay; and the southern parts sand and gravel. At Catsgrove, near Reading, there is a stratum of chalk, thirty feet in thickness, lying upon a bed of flint. Above the chalk is a stratum of sandy clay, about a foot thick, covered by a layer of oyster-shells, two feet in depth. Similar strata of sand, with oyster-shells, are found for two miles round Reading, at various depths, from fifteen to twenty-five feet. Here likewise have been discovered an inferior kind of ochre, and different species of echini. Fossil-shells, sharks' teeth, parts of fishes, and other marine productions, are also found in various parts. Pipe-clay and potters-clay are in considerable quantities; and shell-marl was discovered in the vale of Kennet in 1794. There is a mineral spring at Cumnor which possesses a mild cathartic quality; another a mild chalybeate at Sunninghill, near Windsor; and Gorrick-well, in the parish of Oakingham, is strongly impregnated with steel.

The greatest portion of the land in Berkshire is freehold, though there are copyholds in different parts; and leases on lives, and leases renewable every seven years, under deans and chapters, and other corporate bodies, are pretty frequent. The farms are of all sizes, which induces men of various amounts of capital to enter into agricultural pursuits; and while rank and fortune are nowhere more respected or more beneficial in their influence, there is no part of England where a virtuous independence is more general. The late Mr. Pitt is stated to have said on one occasion, 'that no minister of this country could command ten votes in Berkshire.' The total amount of real property, assessed under schedule A, for the property-tax in Berkshire, in 1815, was £652,082; and the amount of the poor rates the same year was £122,352, at the rate of 3s. 9d. in the pound.

The soil is well adapted to wheat and barley, great quantities of which are grown, the latter being chiefly sent to London after being made into malt. There are many large dairy farms, particularly in the White Horse Vale: the cattle and sheep are large and valuable, and of the latter there is a peculiar breed; the distinguishing qualities of which are their great size, their height on the legs, and weight when fatted: they have black faces, Roman noses, black or mottled legs and long tails. The Berkshire swine have also been long famous.

No inland county possesses more advantages in point of navigation than Berkshire. In its western division, no part of the triangle formed by the Thames on the north-east, the Kennet on the south, and the Wilts and Berks' canal on the west, is distant more than twelve miles from water-carriage; and in the east and south-eastern parts, the distance is nowhere greater from the Basingstoke canal. The Kennet and Avon canal, not long since completed, begins a little above Newbury, and runs nearly parallel to the Kennet, till it enters Wiltshire in the neighbourhood of Hungerford.

Berkshire is divided into twenty hundreds,

containing twelve market towns and four royal boroughs. It sends nine members to parliament; the county two; Reading, Windsor, and Wallingford two each, and Abingdon one. The twelve market towns are Abingdon, Farringdon, Hungerford, East Ilsley, Lambourn, Maidenhead, Newbury, Oakingham, Reading, Wallingford, Wantage, and Windsor; Ilsley is a noted sheep market, held on every alternate Wednesday from Easter to Midsummer; 20,000 sheep are sometimes sold in a day, and the annual average exceeds 250,000; Oakingham has a large supply of poultry, chiefly bought for the London market; and Farringdon is famous for its bacon and hams. This county is esteemed healthy, even in the valleys; it produces abundance of timber, principally oak and beech, and has reputable manufactures of woollen, sailcloth, and paper. At Bisham there are copperworks, rather at present in a declining state, but the mills have been thought the most powerful and complete in the kingdom for rolling sheet copper, making bolts for ship-building, and hammering copper pans and bottoms. From 600 to 1000 tons of copper have been used here annually.

This county has long been distinguished as containing a favorite royal residence—the only one, indeed, that our kings possess worthy the name—at Windsor. The castle was founded by William the Conqueror. Edward III. was born here, where he afterwards instituted the illustrious order of the garter; and its forest has long afforded the pleasure of the chase to our monarchs. The park is stocked with numerous herds of deer, and a part of it has been much improved by the establishment of experimental farms, managed under the immediate direction of his late majesty. In this county are also Frogmore, Cumberland-Lodge, Cranbourn-Lodge, and other residences belonging to the royal family, besides above 150 noblemen and gentlemen's seats.

The Roman Watling-street, from Dunstable, enters Berkshire at the village of Streatley, between Wallingford and Reading, and crossing this county proceeds to Marlborough. Another Roman road from Hampshire, the Spinæ of Camden, enters this county, leading to Reading and Newbury, where it divides: one branch extends to Marlborough in Wiltshire, and the other to Cirencester in Gloucestershire. A branch from the Icknield-street proceeds from Wallingford to Wantage. There is a Roman camp near Wantage on the brow of a hill, of a quadrangular form; there are other remains of encampments at East Hampstead, near Oakingham, White Horse Hill, and Pusey; and upon Sino-dunhill, near Wallingford. At Lawrence Waltham is a Roman fort, and near Drenchworth is Cherbury castle, a fortress of Canute. Uffington castle, near White Horse Hill, is supposed to be Danish; and near it is Dragon Hill, supposed to be the burying-place of Uther Pendragon, the British monarch. Near White Horse Hill are the remains of a funeral monument of a Danish chief, slain at Ashdown by Alfred. On White Horse Hill, near Uffington, is the outline of what is called a horse, although it bears quite as great a resemblance to a greyhound. It is

formed by cutting away the turf from the face of the chalk. Its origin is uncertain, but Mr. Lysons observes, that a singular figure appears frequently on the British coins, resembling this animal, and he, in consequence, ascribes this piece of antiquity to the ingenuity of the Britons. Specimens of Saxon architecture are found in Avington church, and the nave of the church at Windsor. The churches of Uffington, Englefield, and Farringdon, and the chapel of Little Farringdon, are superior specimens of the early Gothic: and of the later Gothic, there is no existing exhibition more complete or beautiful than St. George's chapel, Windsor.

Berkshire has occasionally been the scene of military operations, from the time of Offa until the Revolution. During the civil wars was fought the first battle of Newbury, in which lord Falkland lost his life, in September, 1643, and on the 10th of October of the following year, a second battle of that name, in which both parties claimed the victory; the royal party was expelled from the whole county, excepting Wallingford, in 1646. In 1688 there was a skirmish at Reading, on the eve of the revolution.

The population of Berkshire, in the census of 1821, was as below:—

Males	65,546
Females	66,431
Total	131,977
Families chiefly employed in agriculture	14,769
Families chiefly employed in trade, &c.	8,773
All other families	4,158
Average number of persons in each family	4½

The increase of population at several following periods has been thus stated:—

Dates.	Inhabitants.	Increase.
1700	74,700	24 per cent. in 50 years.
1750	92,700	
1801	112,800	21½ per cent. in 51 years.
1811	122,300	8 per cent. in 10 years.
1821*	134,700	10 per cent. in 10 years.

* Including a proportional part of the army, &c.

See *Lyson's Magna Britannia; Mavor's Agricultural Report of Berkshire; Beauties of England and Wales; Smith's Map of the Strata of England, and Memoir.*

BERKSHIRE, the most westerly county of Massachusetts. It is bounded on the north by the State of Vermont, on the east by Hampshire county, on the west by the State of New York, and on the south by the State of Connecticut. It is fifty-one miles from north to south, and eighteen from east to west, and is divided into twenty-five townships. This county is considerably mountainous and hilly; in some of the hills are found quarries of marble. The chief town is Stockbridge.

BERKSHIRE, a township of Vermont, in Franklin county.

BERLIN, a city of Germany, formerly the capital of the electorate of Brandenburg, and now of the whole Prussian dominions; one of

the largest and best built cities in Europe. The streets are broad, strait, clean, and well paved; and some of them very long and elegant. There are also several large and beautiful squares, with pleasant walks. It is surrounded with handsome gardens, which produce excellent fruit. The Spree, that crosses the city, has communications by canals with the Havel, Oder, and Elbe, as well as with the Baltic Sea and German Ocean, which greatly facilitate commerce. Berlin is divided into five parts, once distinct towns, without reckoning the suburbs, which are extensive. They were first united under one magistrate in 1714. In all, the city contains thirty-three churches, principally Lutheran and Calvinistic, with a few for the Roman Catholics. Contrasting Berlin with Hamburg, Dr. Neale says, 'None of the offensive peculiarities in the appearance of the latter city, are here visible; the traveller, in the course of sixty miles, seems to have borrowed the wings of time, and outstripping the slow and gradual progression of the arts for four centuries, finds himself, on a sudden, placed as it were in the midst of an Italian city, surrounded with wide and dry streets, spacious squares, avenues, bridges, porticoes, palaces, triumphal arches, statues, and cupolas; and, instead of the jutting abutments of mean brick buildings, beholds on all sides the ample proportions of stately edifices—the triumph of human industry over the sterility of nature, a modern Palmyra raised by the wand of an enchanter amidst the hyperborean deserts of Brandenburg.' Frederic II. is supposed to have expended yearly in the improvement of this city 400,000 dollars, about £65,000 sterling, and in that of Potsdam 200,000 dollars, £32,500; the police is well regulated, and the produce of the excise is above £20,000 sterling. In the suburb called Spandau is a royal palace furnished in exquisite taste. Adjoining to Stralau is a house and garden belonging to the king. The royal gate of the city is defended by a half moon, and two bastions, covered with brick; it fronts the royal street, which is one of the longest and most frequented in the city, and it contains several handsome houses, particularly those belonging to the ministers of state. The royal street is crossed by five others. On the new bridge, which is of stone, over the Spree, is an equestrian statue of William the Great, which is esteemed an exquisite piece of workmanship. After passing this bridge, the king's palace appears, which is a superb edifice, four stories high. No palace in Europe is more magnificently furnished. Its fine gardens, however, are now converted into a place of arms. The king's stables near the palace, are large, and front the great street. The mangers are of stone, and the pillars, that divide the stalls, of iron, adorned with the king's cypher. Over the riding-house is a theatre, where plays have been acted and balls given for the entertainment of the court. The arsenal consists of four rectangular buildings, forming a court in the middle; each front has three large porticoes. On the principal gate is a medallion of Frederic II. in bronze. We follow, in the rest of our description, the main divisions of this noble city.

I. Berlin Proper, founded by the margrave Albert, surnamed the Bear, in the year 1163, contains thirty-nine streets. The best buildings in this part of the city are the post-office, the governor's house, and the council-chamber; the Calvinist parish church, and the Joachimsthal academy; the garrison church, built in 1722, and adorned with the portraits of generals Schwerin, Keith, Winterfeld, Zeithen, and Von Kleist, the poet. Here also are deposited a number of colors and other trophies taken in the field. The other buildings are the Lutheran parish churches of St. Nicholas and St. Mary, the Brandenburg county meeting-house, the Jewish synagogue, the new guard-house, the French church, the united Berlin and Coln Lutheran academy (the funds for which were left by a Venetian merchant), the royal arsenal, from which the whole Prussian army is supplied with clothing; Frederic's hospital, in which above 800 children are educated gratis; the porcelain manufactory, the seminary for cadets, in which 224 young noblemen are instructed in language, sciences, and the exercises of the field; the new theatre, &c. The suburbs of Berlin Proper are the King's quarter, the Spandau quarter, Sophienstadt, and the Stralau quarter. In these are to be seen the large workhouse, the new mint, the public storehouse, the summer palace of Mon Bijou, with its pleasure gardens, the extensive hospital of La Charité, the sugar refineries, and the hospital of invalids, built in 1748, and fitted to contain above a thousand inmates. About two miles from the town is the mineral spring called Frederic's Well, with a bath, and other conveniences; it was first opened in 1761. Across the main branch of the Spree, between Berlin Proper and Coln, there is a fine free-stone bridge, of five arches, and 160 feet in length, ornamented with the statue of the elector Frederic William.

II. Coln, or Cologne on the Spree, also founded by the margrave Albert, and at one time surrounded with walls and ditches. The Spree here divides itself into two branches, forming a sort of island on which the town is built. The streets are twenty-five in number, regular, and well built. The most remarkable edifice here is the royal castle, 430 feet in length, and 276 in breadth. In it is the king's library, which contains upwards of 200,000 volumes, and receives a frequent increase, as two copies of every new book must be deposited in it by the publishers. In this castle are also to be seen the cabinet of antiquities, minerals, and medals, with the museum of natural and artificial curiosities. In this quarter of the town are the principal government offices, such as the council of state, the general directory of war, finance, and royal domains, the war treasury, &c. Near the castle stands the magnificent cathedral belonging to the Calvinists, first opened for public worship in 1750. The other objects worthy of notice, are the new custom-house, the royal mews, the gallery of paintings, the military school, in which fifteen young noblemen are educated for a military life at the expense of the state, the market-place, the new tilt-yard, &c. New Coln, which once formed a part of the old

town, consists of four streets, running parallel to the bank of the Spree. Here are large store-houses of salt and iron, with sugar refineries, and the observatory of Krosigke. The suburb of Coln, or, as it is sometimes called, of Coppenick, is finely situated, and was first included within the outer walls in 1736.

III. Fredericswerder, or Frederic's Island, was founded by the elector Frederic William I. and is composed of nineteen streets. The principal church is divided between the German and French Protestants, and at some distance from it is the French academy, as also the Fredericswerder academy, which was rebuilt in 1794. Other excellent establishments in this part of the town are the medical college, the old custom-house, the old mint, the royal hunting lodge, in which is at present the royal bank, the palaces of the margrave Von Schwedt and the prince of Prussia, the royal arsenal and foundry, the stamp-office, &c. In this quarter of the city, likewise, is the principal Lombard, where money is lent on goods.

IV. Dorotheenstadt, or New Town, founded by the same elector, and named after his wife. It lies between Fredericswerder, Fredericstadt, and the Spree, and is not of great size, having only six regular streets, but in these are some splendid buildings. We notice the Lutheran, German, and French reformed church, so called from its being used in common by all three communions, the palace of prince Henry, now the university, the king's mews, the building formerly occupied by the academy of painting, sculpture, and architecture; the royal academy of sciences, with its elegant hall, library, and cabinet of medals, the observatory, the anatomical theatre, the handsome opera-house, the principal Catholic church, built in 1773. Here also is a fine alley of linden trees, above half a mile in length, and 160 feet wide, with various other promenades and labyrinths. The university was instituted so lately as 1810, and is rather the union of several former seminaries than a new establishment; the number of students in the first session was 232.

V. Fredericstadt, founded by the elector Frederic III. in 1688, is the largest of the five towns of which the city of Berlin is composed, and contains twenty-three broad and well-built streets, of which Leipziger-strasse is the most remarkable for beauty, and Friedrich-strasse for length. Here are situated the principal courts of law, the gold and silver fabrics, connected with the orphan-house at Potsdam, the porcelain manufactory, the magnificent palace of the grand master of the order of Malta, the palace of count Reuss, the Jerusalem, Trinity, and French churches, and the Bethlem church, belonging to the Lutherans of Bohemia. Here also are the statues of general Schwerin and Winterfeld, and the excellent seminaries called Realschule, in which are taught the languages, and all the arts and sciences of civil life.

Berlin contains a population of about 180,000 individuals, besides the military, who are seldom less than 30,000. Nearly one-fourth of the people are employed in various manufactures, the principal of which are silk, porcelain, cotton,

linen, laces, jewellery, clocks and watches, and several metallic articles. In the silk manufactories, the number of looms is above 2000, employing in all nearly 3000 workmen, and working silk to the value of about £400,000 a-year; of this nearly one-fourth is exported. This city was taken October 9, 1760, by an army of Russians, Austrians, Saxons, &c. who totally destroyed the magazines, arsenals, and foundries, and seized an immense quantity of military stores, and a number of cannon and arms. Berlin again suffered the fate of a captured city, after the battle of Jena, in 1806. It is forty-two miles north-west of Frankfort on the Oder, ninety north of Dresden, and 300 north by west of Vienna. Long. 13° 31' E., lat. 52° 32' N.

BERLIN, a flourishing town of York county, Pennsylvania; situated on the south-west side of Conewago creek, at the confluence of a small stream. It is thirteen miles west of York-town, and 101 west of Philadelphia.

BERLIN, a thriving town of Somerset county, Pennsylvania; situated on a branch of Stony creek, which empties into Conemaugh river, on the west side of Allegany mountain. It is thirty miles west by south of Bedford, and 240 west of Philadelphia.

BERLINS, though named from the preceding city, are said by some to be the invention of the Italians, and the word to be derived from *berlina*. The *berlin* is a very convenient machine to travel in, being lighter, and less apt to be overturned than a chariot. The body is hung high, on shafts, by leather braces; and, instead of side windows, some have screens to let down in bad and draw up in good weather.

BERLINA, a name given in Italy to a sort of stage whereon criminals are exposed to public shame.

BERLUCCIO, in ornithology, the name of a small bird of the *bortulanus* kind, and much resembling the yellow-hammer, but something smaller, and longer-bodied.

BERMUDA HUNDRED, a port of entry, and post-town of Virginia. It is situated in Chesterfield county, on the west side of James river, a few miles above the junction of the Appomattox, and about nineteen direct below Richmond. It is 315 miles south-west by south of Philadelphia.

BERMUDAS, or the SUMMER, or SOMER'S ISLANDS, a cluster of islands in the Atlantic Ocean, lying almost in the form of a shepherd's crook, in long. 64° 0' W., lat. 32° 20' N. between 200 and 300 leagues distant from the nearest place of the continent of America, or any of the other West India Islands. The whole number of the Bermudas is said to be about 400, but very few of them are habitable. The principal is St. George's, which is not above sixteen miles long, and three at most in breadth. St. George's town is at the bottom of the principal haven; and is defended by four forts, which command the entrance. The town has a handsome church, a library, and a good town-house, where the governor, council, &c. assemble. It is universally agreed that the climate of this and the other Bermudas has undergone a surprising alteration for the worse since they were first discovered;

the air being much more inclement, and the soil more barren, than formerly. This is ascribed to the cutting down those fine spreading cedars, for which the islands were famous, and which sheltered them from the blasts of the north wind at the same time that it protected the undergrowth of the delicate plants. In short, the Summer Islands are now far from being desirable spots and their natural productions are but just sufficient for the support of the inhabitants. The cultivated districts are appropriated to the growth of Indian corn, pulse, fruits, and vegetables. The first yields two crops a year, one harvest being in July, and the other in December. In 1785 the growth of cotton was attempted, but with no great success, there not being more than 200 acres appropriated to it. At first tobacco was raised upon these islands; but being of a worse quality than that growing on the continent, the trade is now almost closed. Large quantities of ambergris were also originally found upon the coasts, and afforded a valuable commerce; but that trade is also reduced, as well as their whale trade. The Bermudas, however, might still produce some valuable commodities, were they properly cultivated. About three or four feet below the surface, a chalky stone is found which is easily chiseled, and is exported for building houses in the West Indies. Their palmetto leaves, if properly manufactured, might turn to excellent account in making hats: and their oranges are still valuable. The soil is also said to be excellent for the cultivation of vines. The chief resource of the inhabitants for subsistence is in the remains of their cedar wood, of which they fabricate small sloops, with the assistance of the New England pine, and sell them in the American ports. Their turtle trade is also of value; they rear a great variety of tame fowl, and have wild ones in vast plenty. The red wood peculiar to these islands, feeds worms, which change to flies, a little larger than cochineal, instead of which they are used. Another plant peculiar to them is a kind of creeping dandelion, whose root is most powerfully emetic. Fish likewise abound upon the coast. Among the insects, the spider is remarkable for its size, and its beautiful colors diminish the disgust it inspires: Its web is in color and substance a perfect raw silk, and running from tree to tree, small birds are sometimes so entangled in it, as hardly to be able to escape. No species whatever of venomous animals are found here. All the attempts to establish a regular whale fishery on these islands have hitherto proved unsuccessful. The water, except that which falls from the clouds, is brackish; and the same diseases reign here as in the Carribee Islands. They have seldom any snow, or even much rain; but when it does fall, it is with great violence, and the north or north-east winds render the air very cold. The storms come with the new moon: and if there is a halo or circle about it, it is a sure sign of a tempest, which is generally attended with dreadful thunder and lightning. There are but two places on the large island where a ship can safely come near the shore, and these are so well covered with high rocks, that few will choose to enter it without a pilot; a vessel of ten tons burden can

scarcely enter the roads. The Bermudians have been characterised as remarkable for the kind treatment of their slaves, and their general good morals. The women are thought handsome, but given to dress. A royal dock-yard and naval arsenal have lately been established here for refitting the king's ships, belonging to the North American station. This has consequently increased the population of the Archipelago, which is estimated at about 70,000, half being slaves.

Other of the Bermudas are St. David's, Cooper's, Ireland, Somerset, Long Island, Bird Island, and Nonsuch. A few villages and farms are scattered over most of them.

The official value of the imports and exports of the Bermudas was

	Imports.	Exports.
For 1809,	£11,648	£34,279
1810,	1,137	36,613

The north point of these islands lies in lat. 32° 34' N., long. 63° 28' W.

John Bermudas, a Spaniard, is commonly said to have discovered these islands in 1527; others attribute the discovery to Henry May, an Englishman, who was shipwrecked upon St. George's. Shortly after, the deputy governors of Virginia were also wrecked here, and built each of them a new ship of the cedar they found, in which they sailed to Virginia. On their arrival, that colony was in such distress, that lord Delawar, upon the report which his deputy governors made him of the plenty they found at Bermudas, despatched Sir George Summers to bring provisions from thence to Virginia. Sir George, after a tedious voyage, reached the place of his destination, where soon after his arrival, he died, and the sailors he had left departed in their cedar ship for England. Two sailors, Carter and Waters, being apprehensive of punishment for their crimes, had secreted themselves, however, when Sir George was first wrecked upon the island, and had ever since lived upon the natural productions of the soil. Upon the second arrival of Sir George, they enticed one Chard to remain with them: but, differing about the sovereignty of the island, Chard and Waters were on the point of cutting one another's throats, when they were prevented by the prudence of Carter. Soon after they found a piece of ambergris weighing about eighty pounds, besides smaller pieces, which in those days were sufficient, if properly disposed of, to have made each of them master of a fortune. They, therefore, came to the resolution of transporting themselves, and it, in an open boat to Virginia or Newfoundland. In the mean time, the Virginia Company claimed the property of the Bermudas islands; and sold it accordingly to 120 persons of their own society, who obtained a charter from king James. This New Bermudas Company, as it was called, now fitted out a ship with sixty planters on board to settle on the Bermudas, under the command of Richard Moor. The new colony arrived upon the island just at the time the sailors were about to depart with their ambergris; which Moor having discovered, he immediately seized and disposed of it for the benefit of the company.

So valuable a booty gave them abundant spirits, and the adventurers settled themselves upon St. George's island, where they raised cabins. Moor, we are told, built eight or nine forts or rather blockhouses, and planned out the town of St. George as it now stands. The fame of this settlement awakened the jealousy of the Spaniards, they appeared off St. George's with some vessels; but being fired upon from the forts, sheered off; though the English at that time were so ill provided for a defence, that they had scarcely a barrel of gunpowder on the island. During Moor's government, the Bermudas were so infested with rats, which had been imported into them by the English ships, that they even covered the ground, and had nests in the trees. This calamity lasted five years, and at last suddenly ceased. Moor was succeeded by a Captain Daniel Tucker, who improved upon all his predecessor's schemes, and particularly for the culture of tobacco. In 1619 Captain Tucker resigned his government to Captain Butler. By this time the high character which the Summer Islands bore in England rendered it fashionable for men of the highest rank to encourage their settlement; and several of the first nobility of England purchased plantations here. Captain Butler brought over with him 500 passengers, who became planters on the islands, and raised a monument to the memory of Sir George Summers. The island now contained about 1000 whites, and Captain Butler applied himself to give it a new form of government by introducing an assembly: the government till this time being administered only in the name of the governor and council. A body of laws was likewise drawn up. We shortly after read of 3000 English being settled in the Bermudas, and several persons of distinction had the curiosity to visit them from England. Among these came Waller the poet, who has celebrated this spot in one of his poems, as the most delightful place in the world. The accounts given of the serenity of the climate, induced the ingenious bishop Berkeley to form a plan for founding a college there, for the purpose of propagating Christianity among the American Indians. In 1725 he published a proposal of this kind in London, which after some time was approved by the government, and subsequently brought into the House of Commons by Sir Robert Walpole. A charter was ultimately granted by his Majesty for the establishment of a college, to be called St. Paul's College, in Bermudas, to consist of a president and nine fellows, who were bound to maintain and educate the children of American Indians at £10 a year each. To promote this philanthropic purpose, the parliament passed a vote for £20,000. In 1728 Berkeley sailed to America to carry his intentions into effect; but after he had been kept waiting there for some time, the money was not paid, and the scheme was relinquished.

BERN, or BERNE, a canton of Switzerland, which holds the second rank in the diet; although it is by far the largest, containing, before the late revolutions, almost one-third of the whole country. Its present boundaries are Uri, Underwalden, and Lucerne on the east; Aargau and Solothurn

on the north; the Jura mountains, Fribourg, and Vaud on the west, and Valais on the south. It was increased in 1815 by the greater part of the bishopric of Bale, and the town and territory of Bienne; but had previously lost, in 1798, more than a fourth of its former extent, the two new cantons of Aargau and Vaud (including the bailiages of Peterlingen and Avenche) being erected out of it. The portion left is divided into the five districts of Bern (the town), the Oberland, the Landgericht, the Emmenthal, and the Seeland, each of which is subdivided into thirteen tribes or corporations. The large council now consists of 195 members, who are chosen by these corporations, and form the legislature of the canton, a committee of which bears the name of the small council, and has at its head two magistrates, possessed of the executive power. The great council assembles for only three weeks in the half year; the other is permanent. The established religion is Calvinism, nearly the same with that of the church of Scotland. The ministers are divided into deaneries and classes, and hold yearly chapters and synods. They are kept in a greater dependence on the civil power here than in the other cantons, and none suffered to interfere in matters of state; but religious discipline is here very strict. The canton is divided into twenty-four upper bailiwicks, and comprehends 3872 square miles, and 215,000 inhabitants. The southern boundary, viz. that on the side of the Valais, consists of a chain of very high mountains; towards the north the country begins gradually to flatten, and is in many places highly productive in fruit, vines, and corn. Of the last of these articles, however, the total quantity yielded is not sufficient to supply the domestic consumption. In the mountainous parts the principal object of attention is the breeding of cattle and horses, the export of which, as well as of cheese, is very extensive. Salt is found in a few places. Accounts are kept in batzen and kreutzers: a piece of ten batzen is also called a frank, and is worth forty-four Rhenish kreutzers, or about 15*d.* sterling.

Bern joined the Swiss confederacy in 1353, and enjoyed, from its size and political importance, the next place among the cantons, to Zurich. The legislative power was vested in the great council of 299; the executive was in the hands of the small or daily council of twenty-seven, chosen out of the former. This canton, at an early period of the Reformation, withdrew from the church of Rome, and by secularising the revenues of its numerous and opulent ecclesiastical establishments, materially enriched the public treasury. The change of faith was probably attended by few excesses, as many ancient monastic buildings remain. An aristocratic spirit, however, gradually prevailed in the constitution, and in 1764 a law was passed, by which 243 patrician families were declared the only persons eligible to seats in the council, and consequently to offices of trust or distinction. This step excited great clamor, particularly among the inhabitants of the Pays de Vaud, who considered themselves treated as a conquered people; and on the entry of the French in 1798, the aristocratic party was overthrown, and a new constitu-

tion framed. Buonaparte erected the Pays de Vaud into an independent state, thus depriving Bern of the most profitable portion of its territory; and the congress at Vienna, in 1815, when it professed to bestow on it an equivalent in the Evêché, confirmed the disruption of the Pays de Vaud. What remains of this canton, however, is unrivalled in its scenic attractions. In Oberland the range of the Alps is fully as magnificent, and perhaps bolder in its outline than that of Chamouni; the verdure and the foliage are enchantingly rich, and the cascades are both numerous and beautiful. At Breintz the Giesback has seven successive falls; and the Staubbach is thrown down above 900 feet of perpendicular descent. At Hindelbank, about seven miles from Berne, is a chef d'œuvre of Nahl, the monument of Mad. de Langhans, which the traveller should also notice: nor, if objects of philanthropy have charms for him, will he omit to visit the well ordered seminary of Professor Fellenberg at Hofwyl, whose system of education, both for the poor and wealthy, is admired throughout Europe. The buildings which were only finished in 1822, are more considerable in extent than those of almost any other public institution in Switzerland. The prevailing language is German, but the higher orders speak French. The whole area is now calculated at 3872 square miles, and the population at 232,000. The chief manufacture is linen, of which 10,000 bales are exported annually by way of Lyons, silk goods, stockings; and clocks and watches are also made in the town. Hides, horses, cattle, cotton cloth, and cheese are also exported.

BERN, a city of Switzerland, and capital of the preceeding canton, is situated upon a peninsula formed by the Aar. It is said that the taking of a bear by Berchtold V., Duke of Zæringen, on the day on which the foundation of this city was laid, gave occasion to its name; hence it is often in Latin called *Arctopolis*, i. e. the city of the bear, and has a bear for its coat of arms. Near the Neufchâtel gate are always kept a number of bears, in two enclosures, with trees for them to ascend and play upon. The houses are mostly built of white free-stone, and in the principal streets, have piazzas or arches under them. Most of the streets are paved with flints, and traversed by a canal lined with stone, which is brought from a considerable distance. The city is large, standing almost in the middle of the canton, and containing several churches, of which one is called the Great Church, and its first minister the dean, who is the head of the city clergy. From an inscription near the door of this church, it appears that the first stone of it was laid in 1421. It is a fine gothic edifice. In this city is also a college, a large public library, and a museum; a guildhall; a well stored arsenal; and several hospitals. In the arsenal is a wooden statue of the famous William Tell. On the east side of the city is a handsome stone bridge; and near the great church a very fine platform, several hundred feet in height, which makes a most delightful walk.

Bern stands 1700 feet above the level of the lake of Geneva, from which city it is seventy-

five miles distant; and fifty from Basle and Zurich. Population 12,900.

The **BERN MACHINE** is an engine for rooting up trees, invented by Peter Sommer, a native of Bern in Switzerland. There is nothing in the construction of this machine which entitles it to a particular description. The contrivances for tearing up trees that exhibit ingenuity or originality of construction, will be found under **TREES**. See on this subject also *Young's Natural Philosophy*, vol. ii. p. 199.

BERNACLE, in ornithology, a species of goose. See **ANAS** and **BARNACLE**.

BERNARD (Dr. Edward), a learned astronomer, linguist, and critic, was born at Perry St. Paul, on the 2d of May, 1638, and educated at Oxford, where he became, in 1669, Savilian professor of astronomy. His principal works are: 1. *Tables of the Longitudes and Latitudes of the Fixed Stars*. 2. *De Mensuris et Ponderibus Antiquis Libri Tres*, 8vo. Oxon. 1688. 3. *Orbis eruditi Literatura à Characterè Samaritano deducta*, printed at Oxford, from a copperplate, on one side of a broad sheet of paper, presenting at one view the alphabets of different nations. 4. *Etymologicum Britannicum*, &c. printed at the end of Dr. Hick's *Grammatica Anglo-Saxonica*, &c. 4to. Oxon. 1689. 5. *Chronologiæ Samaritanæ Synopsis*, in two tables, besides notes on part of Stephanus Byzantinus; and on Cotelierius' edition of the ancient fathers.

BERNARD (St.), the first abbot of Clairvaux, was born A. D. 1091, in the village of Fontaine, in Burgundy. He acquired so great a reputation by his zeal and abilities, that all the affairs of the church appeared to rest upon his shoulders, and kings and princes seemed to have chosen him for a general arbitrator of their differences. It was owing to him that Innocent II. was acknowledged sovereign pontiff; and after the death of Peter Leonis, anti-pope, that Victor, who had been named successor, made a voluntary abdication of his dignity. He convicted Abelard at the council of Sens, in 1140. He opposed the monk Raoul; he persecuted the followers of Arnold of Brescia; and in 1148 he obtained the condemnation of Gilbert de la Poreé, bishop of Poitiers, and Eon de l'Etoile, at the council of Rheims. Bayle says he thus verified his mother's dream, that she should bring forth a white dog, whose barking should be very loud! He preached up the crusade under Louis VII. and when complaint was made that he had brought an infinite number of Christians to slaughter, without going out of his own country, he said that the sins of the Croises had hindered the effect of his prophecies. He is said to have founded 160 monasteries, and to have wrought a great number of miracles. He died August 20th, 1153, aged sixty-three. The best edition of his works is that of 1690, by father Mabillon.

BERNARD (Sir Thomas), a modern scholar and philanthropist, was the son of Sir Francis Bernard, formerly governor of New Jersey, and afterwards of Massachusetts Bay. He was educated at Harvard College, in New England, after which he came to this country, and studied the law at Lincoln's Inn. He was called to the bar in 1780, but practised only as a conveyancer.

Appointed treasurer to the Foundling Hospital in 1795, he greatly improved the estates belonging to that charity; and he was the principal projector and supporter of the Society for Bettering the Condition of the Poor. Sir Thomas likewise displayed a considerable taste in the fine arts, and was active in the establishment of the Royal Institution and the British Gallery. In 1809 he succeeded to the title of baronet, and was soon afterwards made doctor of civil law at Oxford. He was also chancellor of the see of Durham. His publications chiefly relate to the management or instruction of the poor; except a work entitled *Spurina, or the Comforts of Old Age*, 8vo. which exhibits considerable learning. He died at Leamington Spa, in Warwickshire, in 1818, aged sixty-seven.

BERNARD CASTLE, a market town in the parish of Gainsford, Darlington Ward, Durham, 246½ miles north from London, on the banks of the river Tees. It was originally built by Bernard Baliol, great grandfather to John Baliol, king of Scotland. The castle, belonging to the earl of Darlington, is of great antiquity. The principal street is spacious, and nearly three-fourths of a mile long, and the houses neat. The market-house is an open structure of fine free-stone, covered with slate, and surrounded by an octagonal colonnade; and here is held one of the greatest corn-markets in the north of England. About two miles from this place a sulphurous water springs from a rock in the bed of the river Tees. This town was formerly famous for the manufactory of white leathern breeches, and for tammies or Scotch camlets: in the manufacture of which, a number of weavers are yet employed. Here is an ancient hospital, founded by John Baliol. Here are four annual fairs, and a market on Wednesday.

BERNARD (St.), THE GREAT, in geography, a mountain of Switzerland, in the Valais, on the frontiers of Piedmont, fifteen miles N.N.W. of Aosta. It has long been celebrated for its romantic and picturesque scenery, and is always visited by travellers. Hannibal has been supposed to have conducted the Carthaginian army by this pass into Italy; and it was by the same route that Buonaparte led his troops to the plains of Lombardy before the battle of Marengo. The summit of this mountain is about 11,000 feet above the level of the sea; the highest pass is about 8000 feet. Here a monastery has been for nearly nine centuries devoted to the accommodation of all travellers who choose to stay to refresh themselves; and they and their horses are most hospitably entertained gratis for three days. When the weather is bad, the monks and their servants, assisted by a peculiar breed of dogs, traverse all parts of the mountains in search of travellers who have lost their way. When every trace of a road has been defaced by a fall of snow, the dogs will point out the path to the guides; and even when the traveller has been overwhelmed, and lies sunk beneath the snowy mass, these animals will frequently discover him. The revolutions of Europe, we greatly regret to add, have deprived this noble establishment of the greatest part of its possessions, so that contributions for its support are

now thankfully received by the fraternity. The summit, Velan, is in lat. $45^{\circ} 48' N.$ and long. $7^{\circ} 2' E.$

BERNARD (Little St.), is to the south-west of the Great St. Bernard, on the opposite side of Mont Blanc. It forms a part of the ancient Alpes Graie. The pass lies over this into Savoy; the summit is 7200 feet from the level of the sea.

BERNARD'S TOWN, a town of New Jersey, in Somerset county. Also a township of Massachusetts, in Hampshire county, 110 miles from Boston.

BERNARDINE (St.), was born at Massa, in Tuscany, in 1380. In 1404 he entered into a Franciscan monastery near Sienna, where he became a famous preacher, and was afterwards sent to Jerusalem as commissary of the Holy Land. On his return to Italy, he preached with such applause, that the cities of Ferrara, Sienna, and Urbino, desired pope Eugenius IV. to appoint him their bishop: but Bernardine refused the honor, accepting only the office of vicar-general of the friars of the Observance for all Italy. He repaired and founded above 300 monasteries in that country; died in 1444; and was canonised in 1450 by Pope Nicholas. His works were published at Venice in 1591, in 4 vols. 4to.

BERNARDINES, an order of monks, founded by Robert, abbot of Moleme, in the beginning of the twelfth century, and reformed by St. Bernard. They wear a white robe with a black scapulary; and when they officiate are clothed with a large white gown with great sleeves and a hood. They differ but little from the Cistercians.

BERNAU, a town of the Middle Mark of Brandenburg, Prussia. The principal trade is in beer, of which large quantities are brewed. It is seated on the Pancho, fourteen miles N.N.E. of Berlin.

BERNAY, a town of France, in the department of the Eure, Upper Normandy. It contains 6470 inhabitants, and carries on a considerable trade in corn, cattle, cider, and flax, with manufactures of paper, wax-candles, linen and woollen cloths. It stands on the Carentonne, sixteen miles E.S.E. of Lisieux, and twenty-eight W.N.W. of Evreux.

BERNBURG, a district and small town of Germany, in the principality of Anhalt. The town stands on both the banks of the Saale, the opposite parts being united by a bridge. It is defended by a castle strongly situated on a rock, and encompassed with ditches. The population of the district is about 30,000; it is fertile, and yields from its mines, wines, and fruits, an annual revenue of 200,000 dollars. The population of the town does not exceed 3000; manufactures of iron, earthenware, starch, glass bottles, and powder. It is about twenty miles west of Dessau, and the same distance south of Magdeburg.

BERNERAY, one of the smaller Hebrides, about five miles in circumference, of sandy soil, but productive when manured. In the centre is a fresh water lake, abounding in eels. This island is supposed to have been once entirely de-

voted to religious ceremonies; it has still a wood of yew trees, which it is thought formed a holy grove, and the remains of two chapels, dedicated to St. Asaph and St. Columbus. Remarkable phenomena are exhibited here by the tides. Long. $7^{\circ} 8' W.$, lat. $57^{\circ} 42' N.$

BERNERAY GREAT, an island of the Hebrides, on the north-west side of the island of Lewis, in Loch Roag, about twelve miles long and four broad.

BERNERAY, LITTLE, a small island of the Hebrides, on the north-west side of Lewis, in Loch Roag, four miles long, and one broad.

BERNERS (Juliana), daughter of Richard Berners, of Berners Roding, and sister of lord Berners, was born at Roding, in Essex, about the beginning of the fifteenth century. She is celebrated by various authors as very learned; and, doubtless, had the best education that could be obtained in that age, as she was appointed prioress of Sopewell nunnery, near St. Alban's, about 1460, or rather earlier. She was very beautiful, and fond of masculine exercises, such as hunting, hawking, &c.; writing treatises on these subjects, as well as upon Heraldry, which were so popular, that they were published in the very infancy of printing. Her treatise on Hunting is written in rhyme, and affords strong evidence of the barbarity of that age. Her work on heraldry begins with the following curious piece of information: 'Of the offspring of the gentilman Jafeth (she certainly meant Shem), came Habraham, Moyse, Aron, and the profettys; and also the kyngs of the right lyne of Mary, of whom that Gentilman Jhesus was borne, very God and man; after his manhode kyng of the land of Jude and of Jhus, gentilman by his modre Mary, prince of cote armure,' &c. We have given a more engaging extract from her treatise on Fishing, in the article **ANGLING**, which see. The time of her death is not known.

BERNHARDIA, in botany, a name given by Houston to a genus of plants, characterised by Linnæus under the name of croton.

BERNICLA, in ornithology, the trivial name of a species of goose. See **ANAS**.

BERNICLE, in natural history, a species of shell fish, called by some *concha anatifera*. It is composed of five shells or valves, and agrees according to Lister with the pholas, both in the disposition and number of its valves.

BERNICLE, in zoology, a species of lepas. See **LEPAS**.

BERNIER (Francis), surnamed the Mogul, on account of his travels and residence in that country, was born at Angers, in France. Having taken his degree of M.D. at Montpellier, he set out, in 1654, and travelled to Egypt, the Holy Land, and the empire of the Moguls. He wrote: 1. *Histoire de la Dernière Revolution des Etats du Grand-Mogul*, 4 vols. 12mo. 1670, 1671, often reprinted under the title of *Voyages de François Bernier*, and translated into English, 8vo. 1671, 1675. 2. *Memoires sur le Quiétisme des Indes*, &c.

BERNIER'S ISLAND, a small island situated near the mouth of Shark's Bay, on the west coast

of New Holland, so called by the French expedition of discovery, fitted out in 1801. It is, in a great measure, surrounded by coral reefs, which render the approach very dangerous. The vegetation is almost confined to a species of cypripedium, the roots of which cover the ground. Here is a beautiful species of kangaroo; and some lizards were discovered between four and five feet in length. The island is situated in the twenty-fifth degree of south latitude.

BERNINI (John Laurence), called cavaliero Bernini, a Neapolitan, famous for his skill in painting, sculpture, architecture, and mechanics. He resided chiefly at Rome, and first began to be known under pope Paul V. who died in 1621, his successor, Gregory XV. conferred on him the honor of knighthood. Urban VIII. employed him in decorating the church of St. Peter, and other public works; and Rome was indebted to him for some of its greatest ornaments. He executed three busts of Charles I. of England, from a picture by Vandyck; on viewing which, he is said to have observed, that it was 'the most unfortunate looking face he ever beheld.' In consequence of the pressing invitation of Louis XV. he visited Paris, though then about sixty-eight years of age; and after making a bust of that monarch, returned to Rome, where he died in 1680, aged eighty-two.

BERNO, abbot of Richenou, in the diocese of Constantine, who flourished about A.D. 1008, is celebrated as a poet, orator, musician, philosopher, and divine. He was the author of several treatises on music, particularly *De Instrumentis Musicalibus*, *De Mensura Monochordi*, &c. But the most celebrated of his works is a treatise *De Musica*, seu *Tonis*, which he wrote and dedicated to Pelegrinus, archbishop of Cologne. He was highly favored by the emperor Henry II. and succeeded so well in his endeavours to promote learning, that his abbey of Richenou was as famous in his time, as those of St. Gaul and Cluni, then the most celebrated in France. He died in 1048, and was interred in the church of his monastery, which he had dedicated to St. Mark.

BERNOULLI, or BERNOULLI (Daniel), the son of John Bernoulli, a celebrated physician and philosopher, was born in Groningen, February 9th 1700. He was intended for trade, but his genius quickly led him into different pursuits. He passed some time in Italy, and at twenty-four refused to be president of an academy meant to have been established at Genoa. He spent several years at St. Petersburg with great credit; and in 1733 returned to Basil, where he successively filled the chair of physic, and of natural and speculative philosophy. In his first work, *Exercitationes Mathematicæ*, he took the only title he then had; viz. 'Son of John Bernoulli,' and never would suffer any other to be added to it. This work appeared in Italy with the great inquisitor's privilege added to it, and it classed Bernoulli in the rank of inventors. He now gained or divided nine prizes, from the Academy of Sciences, which were contended for by the most illustrious mathematicians in Europe. His first prize he gained at twenty-four years of age. In 1734 he divided one with his father, which the latter is said to have

construed into a want of respect. Besides this, he declared his conviction of the philosophic triumph of Newton, against whom his father had contended all his life. In 1740 Mr. Bernoulli divided the prize, On the Tides of the Sea, with Euler and McLaurin. In 1738 he succeeded his father in the Academy of Sciences, and was himself succeeded by his brother John; this place, since its first erection, i. e. eighty-four years, never having been without a Bernoulli to fill it. He was extremely respected at Basil; and to bow to Daniel Bernoulli, when they met him in the streets, is said long to have been the first lesson which every father gave his children. He used to mention two adventures, which he said had given him more pleasure than all the other honors he had received. He was travelling with a learned stranger, who, being pleased with his conversation, asked his name: 'I am Daniel Bernoulli,' answered he, with great modesty; 'And I,' said the stranger (who thought he meant to laugh at him), 'am Isaac Newton.' Another time he was giving a dinner to the famous Koenig the mathematician, who boasted, with a sufficient degree of self-complacency, of a difficult problem he had resolved with much trouble. Bernoulli went on doing the honors of his table; and, when they went to drink coffee, presented him with a solution of his problem, more elegant than his own. He died in 1782.

BERNOULLI (James), a celebrated mathematician, born at Basil, the 27th of December 1645. Having taken his degrees in the university of Basil, he applied himself to divinity, not so much from inclination as complaisance to his father. He gave, however, very early proofs of his genius for mathematics, and soon became a geometrician, without any assistance from masters, and at first almost without books; for he was not allowed to have any of this kind: and if one fell by chance into his hands, he was obliged to conceal it. This severity made him choose for his device, Phaeton driving the chariot of the sun, with these words, *Invito patre sidera verso*, 'I traverse the stars against my father's inclination.' In 1656 he began his travels. When he was at Geneva, he fell upon a method to teach a young girl to write, though she had lost her sight when she was but two months old. At Bourdeaux he composed universal gnomonic tables, but they were never published. He returned from France to his own country in 1680. About this time there appeared a comet, the return of which he foretold; and wrote a small treatise upon it, which he afterwards translated into Latin. He went soon after to Holland, where he studied the new philosophy. After having visited Flanders and Brabant, he came to England. Here he contracted an acquaintance with the most eminent scientific men of the day; and had the honor of being frequently present at the philosophical conferences held at the house of Mr. Boyle. He returned to Basil in 1682; and gave a course of lectures in natural philosophy and mechanics. In 1682 he published his *Essay of a New System of Comets*; and the year following, his *Dissertation on the Weight of Air*. Leibnitz, about this time, having published in the *Acta Eruditorum* at Leipsic, some heads of

his new Calculus Differentialis, or Infinitesimals, Bernoulli, and one of his brothers, discovered at once the beauty and extent of it, and unravelled its profoundest problems with such success, that Mr. Leibnitz declared the invention belonged to them as much as to himself. In 1687, the professorship of mathematics at Basil being vacant, James Bernoulli was appointed to it, and discharged his trust with such universal applause, that a great number of foreigners attended his lectures. In 1699 he was admitted, as a foreign member, into the Academy of Sciences at Paris; and in 1701 he received the same honor from that of Berlin. He wrote several pieces in the *Acta Eruditorum* of Leipsic, the *Journal des Sçavans*, and the *Histoire de l'Academie des Sciences*. But his assiduous application to his studies brought on the gout, and by degrees a slow fever, of which he died, Aug. 16th, 1705, aged fifty-eight. He appointed that a spiral logarithmical curve should be inscribed upon his tomb, with the words, *Eadem mutata resurgo*.

BERNOULLI (James), the son of John Bernoulli, grandson of John, and nephew of Daniel, was born at Basil in October 1759, and was educated for the law. But at twenty years of age he read public lectures on experimental philosophy in the university of Basil, for his uncle Daniel. Being disappointed of succeeding him, he accepted the office of secretary to count Breuner, the emperor's envoy to the republic of Venice; and remained in this city till 1786, when, on the recommendation of his countryman, M. Fuss, he was invited to succeed M. Lexell in the academy of St. Petersburg, where he continued till his death, the 3d of July 1789. He had, at this time, been married only two months, to the youngest daughter of John Albert, the son of the celebrated Leonard Euler.

BERNOULLI (John), the brother of James, and also a celebrated mathematician, was born at Basil the 7th of August, 1667. He labored with his brother to discover the method used by Leibnitz, in his *Essays on the Differential Calculus*, and gave the first principles of the *Integral Calculus*. Our author also, with Messrs. Huygens and Leibnitz, was the first who gave the solution of the problem proposed by James Bernoulli, concerning the catenary, or curve formed by a chain suspended by its two extremities. John Bernoulli had the degree of doctor of physic at Basil, and two years afterwards was named professor of mathematics in the university of Groningen. It was here that he discovered the mercurial phosphorus or luminous barometer; and resolved the problem proposed by his brother concerning Isoperimetricals. On the death of his brother James, the Academic Senate of Basil appointed him to succeed him, without assembling competitors; an appointment which he held during his whole life. In 1714 was published his *Treatise on the Management of Ships*; and in 1730 his memoir on the Elliptical Figure of the Planets gained the prize of the Academy of Sciences. The same academy also divided the prize, for the question concerning the inclination of the planetary orbits, between our author and his son Daniel. John Bernoulli was

a member of most of the academies of Europe, and received as a foreign associate of that of Paris in 1699. After a long life spent in the constant study and improvement of all the branches of the mathematics, he died on the 1st of January 1748, in the eighty-first year of his age. Of five sons which he had, three pursued the same sciences with himself. One of these died before him; but the two others, Nicholas and Daniel, he lived to see become eminent and much respected. The writings of this great man were dispersed through numerous periodical memoirs of the learned academies of Europe, as well as in many separate treatises: and the whole of them were carefully collected and published at Lausanne and Geneva, 1742, in four volumes, quarto.

BERROBBED. Be and rob. See **ROB**.

BEROLINENSIS, in entomology, a species of cantharis; color, black; antennæ, and wing-cases yellowish, with black tips; legs ferruginous. Also a species of curculio; color, whitish, varied beneath; thorax black, sides variegated; two undulated black bands on the wing-cases. Also a species of cryptocephalus, crioceris. The head and thorax are scarlet and glossy; wing-cases and eyes black; legs fulvous; a native of Prussia.

BEROE, or **BERCEA**, in ancient geography, a town of Syria; it has been the tradition for some ages, that it is the modern Aleppo. It is called Chalep in Nicetas, Nicephorus, and Zonaras.

BEROEIA. See **BEREA**.

BEROOT, or **BAIROUT**. See **BAIROUT**.

BEROSUS, priest of the temple of Belus at Babylon, in the time of Ptolemy Philadelphus, wrote the history of Chaldea, which is often cited by the ancients, and of which Josephus gives some curious fragments. The Athenians, according to Pliny, caused his statue with a golden tongue, to be placed in their Gymnasium. See **BABYLONICS**.

BEROTH, or **BEROTHAI**, a city of Syria, supposed to be the same with Chun, which was conquered by David, and from which he carried off a great deal of brass. Some reckon it the same with Berytus. See 2 Sam. viii. 8, and 1 Chron. xviii. 8.

BERQUARIA, or **BERQUERIA**. See **BERCARIA**, and **BERICARIA**.

BERQUIN (Lewis de, lord of Berquin), a French Protestant martyr, was a native of Artois, and for some time king's counsellor to Francis I. He published a book against the monks, which engaged him in a controversy with William Quernus, one of the most violent inquisitors of his time, and at last subjected him to a prosecution for heresy. The articles of accusation were chiefly drawn from his writings; but upon trial he was acquitted. His accusers alleged, that the royal influence saved him on this occasion. On a second trial the decision was that his books should be burnt, and himself along with them, unless he should retract and make submission. But Francis I. returning from Spain, wrote to the parliament to be cautious how they proceeded in the affair against his counsellor. Accordingly Berquin was soon after liberated; and, contrary to the advice of his friend Erasmus, commenced

a prosecution for irreligion against his accusers. The issue now was, that he was sentenced to make a public recantation; which he, with the greatest heroism, refusing, he was condemned as an obstinate heretic, to be strangled on the Grève, and afterwards burnt. This cruel death he suffered at Paris, A.D. 1529; being then about forty years of age.

BERQUIN (Arnaud), a celebrated French author, born at Bourdeaux in 1749. His Idylls, abounding in good sense and sweetness, spread his reputation as an ingenious and agreeable writer; and quickly passed through several editions. The work, however, which has given the greatest celebrity to his name, is his *Ami des Enfans*, the Children's Friend, in 6 vols. 12mo. It has gone through many editions, and been translated into English and other languages. Berquin died in 1791.

BERRA, in old records, a plain open heath.

BERRE, a lake of France, in the department of the mouths of the Rhone, and ci-devant province of Provence.

BERRE, a strong town of France, situated on the above lake. It is remarkable for the quantity and goodness of the salt made in it, but the air is unwholesome. It was taken by the duke of Savoy, after a long siege, in 1591, during the wars of the league; and though all the rest of the province submitted to Henry IV. he could not drive the Savoyards from Berre, till it was given up in 1598, in consequence of the treaty of Vervins. It lies thirteen miles south-west of Aix.

BERRETINI DA CORTONA (Peter), painter of history and landscape, was born at Cortona in 1596, and was a disciple either of Comodi or Ciarpa, or both. He went young to Rome, and studied the antiques, the works of Raphael, Buonarroti, and Polidoro; by which he highly improved his taste. He worked with remarkable freedom; his figures are admirably grouped; his distribution is truly elegant, and the chiaro-scuro judiciously observed. Through his whole compositions there appears uncommon grace, particularly in making the airs of his heads always agreeable. His coloring in fresco is far superior to what he performed in oil. By the best judges it is agreed that he must be allowed to have been the most agreeable mannerist that any age has produced. He died in 1669. Some of his most capital works are in the Barberini palace at Rome, and the Palazzo Pitti at Florence.

BERRETONI (Nicholas), history painter, was born at Macerata in 1617, and became a disciple of Carlo Maratti, with whom he attained such excellence, that he excited the envy of his master. His early works, after he quitted the school of Maratti, were in the style of Guido; and they could not have a higher encomium. He died in 1682.

BERRIMAN (Dr. William), was the son of Mr. John Berriman, apothecary in London, where he was born in 1688. He studied at Oriel College, Oxford, where he took his degrees, and became lecturer of Allhallows, in Thames Street, and St. Michael's, Queenhithe. In 1720 he was appointed chaplain to Dr. Robinson, bishop

of London, who collated him to the living of St. Andrew's Undershaft; and in 1727 he was elected fellow of Eton College. He died in 1750, aged sixty-two. He wrote, 1. A seasonable view of Whiston's Account of Primitive Doxologies. 2. An Historical Account of the Trinitarian Controversy, in eight sermons, at Lady Moyer's lecture. 3. Brief Remarks on Mr. Chandler's Introduction to the History of the Inquisition. 4. Sermons at Boyle's lectures, 2 vols. 8vo. 5. Christian Doctrines and Duties explained and recommended, in 2 vols. 8vo.; and other works.

BER'RY, v. & n. Sax. *berug*, from *bean* to bear. Any small fruit, with many seeds or small stones.

She smote the ground, the which straightforth did yield

A fruitful olive tree, with *berries* spread,

That all the gods admired.

Spenser.

The strawberry grows underneath the nettle,

And wholesome *berries* thrive and ripen best,

Neighbour'd by fruit of basest quality. *Shakspeare.*

For drink, the grape

She crushes; inoffensive must, and meaths

From many a *berry*, and from sweet kernels pressed

She tempers dulcet creams.

Milton.

— and *berry*-bearing thorns,

That feed the thrush (whatever some suppose),

Afford the smaller minstrels no supply. *Cowper.*

BER'YL. Lat. *beryllus*; Gr. *βερύλλος*. A kind of precious stone.

May thy billows roll ashore

The *beryl* and the golden ore.

Milton.

The *beryl* of our lapidaries is only a fine sort of cornelian, of a more deep bright red, sometimes with a cast of yellow, and more transparent than the common cornelian.

Woodward.

BERRY (Sir John), a brave English naval officer, was born at Knowston in Devonshire, in 1635. He received the honor of knighthood for his gallant conduct at the battle of Southwold Bay. In 1682 he was captain of the Gloucester frigate, in which he was conveying the duke of York to Scotland, but either by the inattention or unskilfulness of the pilot, the ship was lost at the mouth of the Humber. Berry, however, by his uncommon presence of mind, saved the Duke, for which he was advanced to a flag. He commanded under lord Dartmouth at the demolition of Tangier; and on his return was made a commissioner of the navy, which he held with his other appointments after the Revolution. He was poisoned on board his ship, lying at Portsmouth, in 1691.

BERRY, or BERRI, a former province and duchy of France, bounded on the south by La Marche, on the west by Touraine and Poitou, on the north by the Blaisois, Sologne, the Orleannois Proper, and the Gatinois, and on the east by the Nivernois and the Bourbonnois. It is fertile in timber, corn, and wine. The wool is much esteemed, and large and fine pastures abound here: considerable quantities of cloth are also made in the province. The Cher divides the province into Upper and Lower Berry; the former being on its east, and the latter on its west bank. It is also now divided into the departments of Cher and Indre, the capital of the one being Bourges, and that of the other Chateauroux. Since the

reign of king John, Berri has given a title to one of the royal family of France.

BERRY ISLANDS, a cluster of small islands among the Bahamas, to the north-west of New Providence, and upon the south side of the channel communicating with the Florida stream. Long. $79^{\circ} 10' W.$, lat. $25^{\circ} 28' N.$

BERS, in ancient medicine, an electuary used by the Egyptians to excite delirium.

BERSA, in old law, a bound, compass, or fence.

BERSARII, in writers of the middle age, a kind of hunters, who pursued wild beasts. The word seems derived from the barbarous Latin bersare, to shoot with a bow; on which supposition it should denote archers only. Or it might be derived from bersa, the fence of a park; in which view, it should import those who hunt in parks or forests. Hincmar speaks of inferior officers in the court of Charlemagne, denominated bersarii, veltrarii, and bevarii. Spelman takes the first to denote those who hunted the wolf; the second those who had the superintendency of the hounds for that use; and the third those who hunted the beaver.

BERSATRIX, in old records, a rocker of young children in a cradle.

BERSCHETE, a sea-port town of Istria, on the coast of the Adriatic. It stands on a high rock, about twelve miles south of Fiume, and is noted for its trade in wine and oil. Lat. $45^{\circ} 27' N.$, and long. $14^{\circ} 35' E.$

BERSE, in botany, the name given by French writers to the sphondylium, or cow parsnip, a species of umbelliferous plants common in our meadows, and known by its large rough leaves and remarkable height.

BERTHEAU (Charles), a French protestant divine, born in 1610, at Montpellier, where his father, Charles Bertheau, was minister. He studied in France and Holland, and was admitted minister at Vigan, in 1681, when only twenty-one years of age. In 1682 he was chosen pastor of the church in Montpellier, and soon after promoted to that of Paris. But the revocation of the edict of Nantz drove him, and thousands more, to seek shelter from persecution in our land of liberty. He came to England in 1685, and in 1686 was called to the Walloon church, in London, where he discharged his pastoral duties for about forty-four years, with much applause. He died, December 25th 1732, having previously published Discourses on the Catechism, and two volumes of Sermons.

BERTHIER (Alexander), prince of Neufchatel, in the reign of Napoleon. We first hear of him when Duphot was killed in a popular tumult at Rome; Berthier was then despatched thither by the French Directory, and entering the city on the 10th of February, 1798, dissolved the papal government. On the 15th he proclaimed the Roman Republic, and sent pope Pius VI. a prisoner to France, where he died. In 1800 Berthier commanded in Italy, and gained a complete victory over the Austrians, at Montebello. He afterwards served in the unfortunate expedition to St. Domingo. He was finally rewarded with the rank of marshal; made duke of Neufchatel in 1806; and in 1809

prince of Wagram and Neufchatel. He executed some important trusts under Napoleon, and was with him at the period of his first abdication in 1814; a short time subsequent to the completion of which, Berthier was killed by falling, or being thrown, from a window into the street.

BERTHIER (Victor Leopold), a brother of the preceding, rose to the rank of general of division in the French service, and was distinguished at the battle of Austerlitz, and the taking of Lubek. He died at Paris in 1807.

BERTHING, in sea language, denotes the raising or bringing up of ship sides. Thus they say, a clincher has her sides berthed up before any beam is put into her.

BERTHINSECK, an old feudal law, by which a man was not to be hanged for stealing a sheep or a calf, that he could carry away in a sack on his back; but only whipped.

BERTHOLLET (Claude Louis), a modern French chemist, was a native of Talloire, in Savoy. He studied medicine at Turin, and took a doctor's degree; after which he practiced at Paris, and obtained the appointment of physician to the duke of Orleans. His earlier researches in chemistry led him to consider the composition of ammonia, the combinations of azote, and the nature of what Sir Humphrey Davy has called chlorine, or oxygenated muriatic acid. He was admitted a member of the Academy of Sciences in 1780, and supplied to it some valuable contributions. In 1792 he was nominated a member of the committee on coinage; and, in 1794, of the committee on agriculture and the arts. He was also made professor of chemistry in the Polytechnic school; and nominated a learned member of the National Institute. His name was inscribed first on the list. In 1796 he was sent by the French authorities into Italy, to select objects of art and science to be transferred to Paris. In 1798 Buonaparte took Berthollet with him to Egypt, and on returning as he did with that general to Europe, he was appointed a member of the conservative senate under the consular government. On the restoration of Louis XVIII. in 1814, Berthollet was nominated a member of the chamber of Peers, with the title of count; and as he did not take his seat in the chamber during the hundred days of Buonaparte's second reign, he retained his rights and dignity on the second restoration of the Bourbons. He had long fixed his residence at the village of Arcueil, near Paris, where he associated a body of scientific students, who aided him in his experimental investigations: and here he died after a short illness in 1822, aged seventy-four. The separate works of Berthollet are—*Observations sur l'Air*, 1776; *Precis d'un Théorie sur la Nature de l'Acier, sur ses préparations, &c.* 1789; *Eléments de l'Art de la Teinture*, first published in 1 vol. 8vo, and enlarged to 2 vols. 1804; *Description du Blanchiment des Toiles*, 1795; *Recherches sur les Loix d'Affinité*, 1801; *Essai de Statique Chimique*, 1803, 2 vols. 8vo. Most of which have been translated into English.

BERTHOLON (N. de St. Lazare), was born at Lyons, and received the rudiments of his education at St. Lazare, which he quitted for Mont-

pelier, where he became professor of medicine and philosophy. He was subsequently called to fill the historical chair in the central school of Lyons, where he continued till his death in 1799. His works are treatises On the Electricity of the Human Body in a Healthy and in a Diseased State; one entitled *De l'Electricité des Vegetaux*, in 8vo; and another, *De l'Electricité des Meteoros*. An Essay on the Method of ascertaining the period at which Wine in a state of fermentation has acquired its greatest strength; another on the Means most conducive to the Prosperity of the manufacturing interest at Lyons; *Theorie des Incendies*, 4to; *Preuves de l'efficacité des Paratonnerres*, 4to; *Des Avantages que la Physique et les Arts peuvent retirer des Érostats*, 8vo; *De l'eau la plus propre à la Vegetation*, in 4to, &c. &c. He was also the discoverer of several ingenious inventions; and first introduced lightning conductors, on Franklin's principle, into France.

BERTHOUD, a county and bailiage of six parishes in the canton of Bern, Switzerland, nine miles north-east of Bern. There are some baths here, much frequented.

BERTHOUD (Ferdinand), a celebrated French mathematician, was born in the county of Neuchâtel in 1727. His father's profession was that of architect, and the son was intended for the church, but, having shown a taste for mechanical contrivances, an experienced workman was obtained to instruct him in clock-making; and he was afterwards sent to Paris to improve in that art. He settled in Paris in 1745, and applied himself to the making of chronometers. By order of the French government, a voyage was made from La Rochelle to the West Indies and Newfoundland, for the express purpose of trying the chronometers of Berthoud, when it was found that they gave the longitude with only a quarter of a degree of longitude of error, after a cruise of six weeks. Satisfactory results were also obtained from his chronometers in the expedition of Verduin, Borda, and Pingré, which was appointed to try them, together with those of Le Roy. Berthoud finally became chronometer-maker to the Admiralty, and member of the French Institute and Legion of Honor; and, being regular in his habits of life, retained the use of his faculties to the last. He died, of hydrothorax, at his country-house, in the Valley of Montmorency, in 1807, at the age of eighty. His principal published works are—*Essai sur l'Horlogerie*, 1786, 2 vols. in 4to; two Tracts on Chronometers, 1773; *De la Mesure du Temps*, 1787, in 4to; *Les Longitudes par la Mesure du Temps*, 1775, in 4to; a Tract on Chronometers, 1782, in 4to; *Histoire de la Mesure du Temps par les Horloges*, 1802, 2 vols. in 4to; *l'Art de Conduire et de Régler les Pendules, et les Montres*, 1760, in 12mo. In this last tract popular directions are given for regulating clocks and watches.

BERTIE, a populous and fertile county of Edenton district, North Carolina. It is bounded on the east by Albemarle sound, on the north-east by Hartford county, on the north by Northampton, on the north-west by Halifax, and on the south and south-west by Roanoke River, which divides it from Martin and Tyrrel coun-

ties. The lands in this county are low and fertile. The chief town is Windsor.

BERTIERIA, in botany, a genus of plants: class, pentandria; order, monogynia. Cor. four-cleft: stic. bilamellate; berry, two-celled, and many seeded. Species, one: a shrub with downy branches, and white, panicle, terminal flowers; a native of Guiana.

BERTINERO, a town of Romagna in Italy, with a strong citadel. It is the see of a bishop; and seated on a hill.

BERTIOGA, a sea-port of Brasil, five leagues south of St. Sebastian, with an excellent harbour. The inhabitants are very enterprising in the whale fishery; but the climate is often overpowering to Europeans.

BERTIUS (Peter), professor of philosophy at Leyden, was born in Flanders in 1565. He lost his professorship for taking part with the Arminians, upon which he went to Paris; where, in 1620, he abjured the protestant religion, and was made Cosmographer to the king, and royal Professor of Mathematics. He died in 1626, aged ninety-four. He published, 1. *Commentaria in Rerum Germanicarum*; in 12mo: 2. A good edition of Ptolemy's Geography, in Greek and Latin; folio: 3. *De Aggeribus et Pontibus*: 4. *Introductio in Universam Geographiam*; besides several tracts.

BERTRAM (Cornelius Bonaventure), a native of Tours in Poitou, was born, 1531, of a respectable family. He became professor of Hebrew at Geneva, Lausanne, and Frankendal, and in 1588 corrected Calvin's version of the Old Testament. He was also the author of a treatise on the Jewish republic, Geneva, 1580, and Leyden, 1641; *Lucubrationes Frankendalenses*, 1585; and a parallel between the Hebrew and Syriac languages; besides which, he superintended the publication of a new edition of Pagnin's Thesaurus. He died at Lausanne in 1594.

BERTRAM (Philip Ernest), was a native of Zerbst, born 1726. He became professor of the law at Halle, and published a history of Anhalt in 8vo; a continuation of that of Spain by Herrera, 4to; and a Treatise on the History of Learning, 4to; and died in 1777.

A monk of this name, but more generally known by that of Ratramnus, belonged to the abbey of Corbie, in the ninth century. He wrote against Hincmar, archbishop of Rheims, on the subject of predestination; and his treatise, comprised in two books, is to be found in the *Vindicia Predestinationis*. He also wrote a work against transubstantiation (two editions of which have since been published; the one in 12mo, 1686, in Latin and French; the other in English, printed at Dublin, 1753), and another on the miraculous conception.

BERVIE, or **BERVY**, a royal burgh and parish of Scotland, in Kincardineshire, seated on the mouth of a river of that name. Its charter was granted in 1342, by king David II.; who, in returning from England, was forced by stress of weather, to land here, where he met with the utmost attention. It has a weekly market, and fairs in May and September. It appears to have been formerly a fishing station; but the fisher-

men have long been removed to Gourdon. Bervie also was long famous, or rather infamous, for smuggling. Manufactures of sail-cloth, thread, and linen yarn, have been established here; and the first machine erected in Scotland for spinning flax, was set up at Bervie. It unites with Arbroath, Brechin, and Montrose, in sending a member to the British parliament; and is situated twenty-three miles south-west of Aberdeen, and thirteen north of Montrose. Long. $2^{\circ} 0' W.$, lat. $56^{\circ} 40' N.$

BERULIANS, a sect of Christians in the twelfth century, who affirmed that all human souls were created in the beginning of the world.

BERWICK (James Fitzjames, duke of), the natural son of James duke of York, afterwards James II. by Arabella Churchill, sister of the duke of Marlborough, was born in France in 1670, and, embracing a military life, served under the duke of Lorraine at the siege of Buda in 1686, where he was wounded. He also distinguished himself in Ireland, in the contest between James and William III. He rose, in the service of France, to the rank of marshal; and commanded in Spain during the war of the succession, particularly at the battle of Almanza in 1707, when he defeated Charles II. and established his competitor Philip on the Spanish throne. He put an end to this war in 1714, by the taking of Barcelona. On hostilities arising between France and Germany, in 1733, the duke of Berwick was again called into the field; and at the siege of Philipsburgh, the following year, he was killed by a cannon shot, June 12th. His Memoirs, written by himself, were published at London in 1779.

BERWICK-UPON-TWEED, so called to distinguish it from North Berwick in East Lothian, is an English town of some importance, situated on the north side of the Tweed, and within one mile of the sea; the river being navigable up to the town. At the mouth of the Tweed, however, is a bar, so that the port can only be entered by vessels of small draught. Berwick formerly imported considerable quantities of timber, iron, and flax, from the Baltic; but its chief dependence has been recently upon the export of salmon to London, sent fresh in boxes stratified with ice; and in the distribution of the agricultural produce of Berwickshire, Tiviotdale, North Durham, and the northern part of Northumberland. The Berwick smacks have long been noted for safe and expeditious sailing.

Berwick, when it belonged to Scotland, was a principal royal borough, and regularly fortified, first on the ancient Scottish, and then on the old Spanish or Italian system. Remains of both systems appear, together with the ruins of its castle: the town is also surrounded with walls, on which cannon are mounted. The bridge over the Tweed contains fifteen arches, and measures 1164 feet long and seventeen feet wide. It was begun in the reign of queen Elizabeth, and ended in the tenth of Charles I.

Berwick has long been annexed to England, with a triangular territory reaching about four miles up the river Tweed, and nearly as much along the sea, containing from four to five thou-

sand acres of useful farm land. It is governed of course by the English law, and the town authorities are a mayor and four bailiffs, who constitute the sheriff. The mayor, recorder, and justices, or all who have been mayors, hold general and quarter sessions, and a court of gaol-delivery at one or other of the quarter sessions, when necessary. The guild or corporation consists of the mayor and all the burgesses, nearly a thousand, in whom are all elections, and the entire management of a very valuable landed property within the bounds, the far greater part of which they divide among themselves, instead of applying it to great and useful public purposes. In 1796 the population was estimated at 7930; it is now above 8000. The town-house is a handsome structure, with a stately spire 150 feet high, and a choir of eight bells. The barracks, capable of accommodating 600 men, form, with the storehouse, a handsome square. The staff of the garrison consists of a governor, lieutenant-governor, fort-major, &c. The corporation possesses the manor of Tweedmouth and Spittal, in the county of Durham. The borough sends two members to parliament. Besides the church, which is a spacious building, without a spire, there are four places of worship for Presbyterians; and the Baptists, Methodists, and Catholics, have each a chapel. The town is well supplied with water from springs about a mile and a half without the walls, whence it is conveyed to a large reservoir, sixty feet in length, sixteen broad, and eight deep. There are no manufactures of any importance: but here have been sometimes shipped in one year, besides salmon, 60,000 quarters of grain, 2000 packs of wool, and eggs to the value of £20,000; the salmon fisheries have let for more than £10,000 yearly. Many improvements have been made latterly; the streets are well-paved, and the foot-paths made comfortable; a new pier stretches a considerable way into the sea.

In Domesday-book, *Berwica* denotes a grange or farm village belonging to some town or manor; and is equivalent to *Bere-tun* or *Barton*, still having that signification in Devonshire, and other parts of England. Chalmers hesitates between the former etymology of this place, and the Anglo-Saxon *Bar*, nudus, bare; and *Wic*, vicus, castellum, sinus; a village, castle, or curving reach of a river.

Berwick was formerly the chief town of the county of this name, and the theatre of many bloody conflicts between the English and the Scots. After repeated sieges, it was, in 1502, finally ceded to England; and by a treaty between Edward VI. and Mary queen of Scotland, declared to be a free town, independent of both states. Upon the death of Elizabeth, in 1603, James VI. of Scotland was proclaimed here; and, when that monarch passed through the town, he confirmed its ancient privileges, and added many, which still remain. Its market days are Wednesday and Saturday; and a fair is annually held for the sale of horses and black cattle, on the Friday of Trinity week. It is 336 miles north-west from London, and fifty-four south-east from Edinburgh.

BERWICK, NORTH, a royal burgh and sea-port

on the coast of Haddington, Scotland, of considerable antiquity ; but its old charter being lost, it obtained a new one from James VI. It joins with Jedburgh, Lauder, Haddington, and Dunbar, in electing a member of Parliament. A small quantity of kelp is annually made ; but its only regular trade consists in the exportation of grain. It is situated thirty miles north-west of Berwick.

BERWICK, or **Abbotstown**, a town of the United States, in York county, Pennsylvania, thirteen miles west of York, and 103 west by south of Philadelphia. Lat. $39^{\circ} 52' N$.

BERWICK, or **NEW BERWICK**, a small town of the United States of America, Northumberland county, Pennsylvania, on the north side of the east branch of Susquehanna river, 160 miles north-west of Philadelphia. Lat. $41^{\circ} 2' N$.

BERWICKSHIRE, a county situated at the south-east extremity of Scotland, on the shores of the German or British Ocean, and adjoining the north-east border of England. It derives its name from Berwick-upon-Tweed, which was formerly its head borough, or county town ; and is bounded on the east by the German Ocean, and a part of the mouth of the Firth of Forth ; on the north by East Lothian ; on the north-west by Mid-Lothian ; and by Roxburghshire on the west and south-west. The southern boundary is formed by the river Tweed, dividing it from Roxburghshire on the west, Northumberland in the middle, and North Durham in the east. This county, formerly inhabited by the ancient British nation, called *Ottadini*, was part of the Roman province of *Valentia*. Many hill forts are to be found on its eminences, interspersed with a few Roman camps. One singular remnant of antiquity, called *Herritsdyke*, may be traced in an oblique direction almost through the whole extent of the county, from a camp or hill fort, on *Harefaulds* in *Lauderdale*, to the banks of the *Whittader*, near the *Tweed*, a distance of twenty-three miles, in a strait line ; which seems to have been intended as a defence against the sudden incursions of the neighbouring barbarous tribes. Home castle, and Fast castle, are the only ruins of border fortresses of importance. On a flat elevated peninsula, close to *Eyemouth*, still called 'the fort,' there are very distinct remains of a regular modern fortification, forming a crown-work across the gorge, which joins this peninsula to the main land. It was the work of a French engineer during the minority of Mary queen of Scots. *Dunse* is the capital : for *Berwick* does not now belong to Scotland ; and the other towns are few and inconsiderable ; *COLDSTREAM*, *GREENLAW*, *LAUDER*, and *EYEMOUTH*, being all that are worth naming. See these articles in our work. The extreme length is $31\frac{1}{2}$, and the extreme breadth $19\frac{1}{2}$, statute miles ; and the entire superficies of the county extends to about 285,000 English acres, of which about 100,000 are arable, and 185,000 are composed of moors and hill pasture.

Lammermoor is the north-eastern hill district of this county ; having *Lauderdale* on the west, and the *Merse* on the south and south-west. Besides these three large divisions, the county is divided into three presbyteries, *Churnside*,

Dunse, and *Lauder* ; and these are subdivided into thirty-one parishes. The districts of *Lammermoor* and *Lauderdale* are of considerable extent, and the general range of hills runs inland from the sea, at *St. Ebb's Head*, nearly west ; but intersected by many narrow vales, chiefly tending towards the south, in which most of the streamlets flow ; though the rivers of the vale land run from the west towards the east. From the main range of hills, various spurs jut out towards the south ; and there are several detached or isolated hills in different places of the vale of the *Merse*. That vale is also much diversified by numerous swells and knolls, and winding deep dells, in which the streamlets of the lower country flow in search of the larger waters and rivers. The northern sides of the *Lammermoor* hills are of considerable steepness, but belong to *East Lothian* ; while the southern slopes are moderate, and blend gradually into the vale. In many places the tops of the hills form extensive elevated table-lands, which slope almost insensibly towards the south. The higher land is usually a bare unfertile moor ; while the slopes, called the moor edges, are generally useful land, and sometimes of excellent quality. Two of the table-lands are crossed by the principal great roads leading from *Edinburgh* to *Berwick* and *Kelso* ; one at the *Press inn*, called *Coldingham Moor*, once a royal forest ; the other at *Blackshiels*. But the features of this county have been little attended to in any survey. *Clint Hill*, at the north-west extremity of the *Lammermoor* chain, is said to be 1544 feet above the level of the sea ; the general range may average about 1000 feet ; the whole terminating in three precipitous rocky promontories, at *St. Ebb's Head* on the south, *Earn's Cleugh* in the middle, and *Fast Castle* on the north. The *Tweed* rather skirts *Berwickshire* in a winding course of forty miles, than belongs to the county, as no portion of its territory crosses that fine stream. *Whitadder* and *Blackadder* are the principal rivers, though the former rises in *East Lothian* ; and both united run into the *Tweed* near *Berwick*. *Lander* or *Leader*, entirely belonging to *Lauderdale*, and giving name to it, runs from north to south, and falls into the *Tweed* at the south-west corner of the county. *Eden*, which rises at the west end of the *Merse*, runs into the *Tweed* in *Roxburghshire*. The *Eye* is the only stream of any consequence in the county which runs directly into the sea.

This cannot be called a mineral district. The rocks and lower hills are composed of most irregularly stratified schistic stone, or hardened clay, with yolks of whin-stone, and very thin quartz veins, mixed with a kind of seatitic half lapidified substance, called *leck*. In the higher muirs, there is a good deal of amorphous and splintery trap, or bastard whin-stone. Rocks of *brecia*, or coarse pudding-stone, are found in several parts : the outer pier of the harbour of *Eyemouth* is built, without cement, of a stone of this kind, found in a rocky promontory contiguous ; and has withstood for almost forty years the fury of the German Ocean without any apparent waste. No coal worth working has ever been found in this county ; that article is

therefore procured partly by sea, but chiefly by an expensive land-carriage from the Lothians, and from the south side of the Tweed. The whole coast has but two ports into which any thing of importance can be brought. Yet, under these obvious disadvantages, a large portion of the county, indeed almost the whole of the Merse, is cultivated in the best style of modern husbandry. No district of the same extent in Britain, unites more successfully the most approved management of arable land, with that of live stock and pasture. The leading feature in the husbandry of this neighbourhood is, the alternation of corn with pulse, herbage, or roots; or what is commonly called white and green crops: but the farmers of Berwickshire, adopting this course invariably, have rendered it more productive, and better suited to their soil and climate, by reserving their cultivated herbage, red and white clovers, with rye grass, from the plough, for two or more years, so that above half the cultivated land is always pastured by sheep and cattle. In the most improved parts the sheep are almost universally of the New Leicester breed, and the short-horned English breed of cattle are in much request. Farms, which are generally held on leases of nineteen years, are of all sizes, from 40 to 1000 acres and upwards; but the more common size, in the Merse, is from 400 to 600 acres. The farm-houses, out-buildings, and cottages, recently erected, are very substantial and convenient. In 1795 the rental of the county was £112,000; but as assessed to the property tax in 1811, it was £240,126; so that in sixteen years the value of property had more than doubled.

Paper is almost the only manufactured article exported from this county: but here are bleach-fields, breweries, corn-mills, and other small establishments for the home supply; some of the millers also are in the practice of purchasing grain, which they sell in Berwick and Dalkeith markets, after converting it into flour, meal or shelled barley. The chief exports, therefore, are raw produce; the imports coal, iron, lime, timber, and groceries. The value of the cattle and sheep driven to Edinburgh, to Morpeth, and several markets in England, amounts to a very large sum; the stationary live stock alone having been estimated, several years ago, at nearly half a million sterling. There are eight small fishing stations on the coast. Eyemouth, the principal harbour, has been improved at a great expense, and is private property. Here there is a profitable sea fishery; and one still more advantageous, for salmon, is carried on in the Tweed.

Berwickshire exhibits numerous traces of military operations and ruins. Perhaps its most interesting remains of antiquity, however, are the nunnery of Coldingham and Dryburgh abbey. A deep glen, called the Pease, in the north-east angle of the county, on the road from Edinburgh to Berwick, has been celebrated in history as one of the natural defences of Scotland. The bridge which has been thrown over it, consists of four arches; and its romantic situation, and stupendous height of 123 feet from the small stream below, render it an object of considerable curiosity. Comparing the number of inhabitants at the three periods when the different censuses

have been taken, we shall perceive that no great increase has taken place:

	Inhabitants.	
In 1801 there were	31,600	} Increase 1 per cent.
1811 . . .	31,800	
1821 . . .	34,100	

BERY, or BURY, in the Saxon language, from beorg, Sax. a hill or castle, signifies the villa or seat of a nobleman; a dwelling or mansion house, being the chief of a manor; for heretofore noblemen's seats were castles situated on hills, of which we have still some remains; as in Herefordshire there are the beries of Stockton, Hope, &c. It was anciently taken for a sanctuary.

BERY. See BERIA.

BERYL, in natural history, called also aqua marina, is a pellucid gem of a bluish green color, found in the East Indies, and about the gold mines of Peru; we have also some from Silesia, but what are brought from thence are oftener colored crystals than real beryls; and when they are genuine, they are greatly inferior both in hardness and lustre to the oriental and Peruvian kinds. The beryl, like most other gems, is met with both in the pebble and columnar form, but in the latter most frequently. In the pebble form it usually appears of a roundish but flattened figure, and commonly full of small flat faces, irregularly disposed. In the columnar or crystalline form, it always consists of hexangular columns, terminated by hexangular pyramids. It never receives any admixture of color into it, nor loses the blue and green, but has its genuine tinge in the degrees from a very deep and dusky, to the palest imaginable of sea-water hue. The beryl in its perfect state approaches to the hardness of garnet, but is oftener softer; and its size is from that of a small tare to that of a pea, a horse-bean, or even a walnut. In many respects the beryl resembles the emerald; but chiefly in the crystals of both being divisible parallel to the sides and extremities of a regular hexahedral prism. Externally the beryl is shining, with a vitreous lustre. In general it is transparent, though sometimes only semi-transparent. The specific gravity is 2.7. Vauquelin analysed a specimen of it, and found it to contain, 69 silica, 15 alumina, 14 glucina, 1 oxide of iron, and 2 lime; by the analysis of this stone Vauquelin discovered the earth he called glucina. When cut, and polished, the beryl has a considerable lustre, and is ranked among gems; though when compared with the ruby, topaz, sapphire, &c. its value is very trifling.

The beryl seems to have received its Hebrew name from the resemblance of its color to that of the sea. It was the tenth stone in the breast-plate of the Jewish high-priest; whereon Zebulon, whose dwelling was at the haven of the sea, was engraved. It may be imitated, by adding to twenty pounds of crystal glass, made without manganese, six ounces of calcined brass or copper, and a quarter of an ounce of prepared zaffre. Beryls have also had cabalistic uses. 'A beryl,' says Aubrey, in his Miscellanies, 'is a kind of crystal that hath a weak tincture of red. There are certain formulas of prayer to be used before they make the inspection, which they term a *call*. In a manuscript of Dr. Forman of Lambeth, which Mr. Elias Ashmole had, is a discourse of this

and the prayer; also there is a *call* which Dr. Napier did use. James Harrington, (author of *Oceana*), told me that the Earl of Denbigh, then ambassador at Venice, did tell him that one did show him three several times, in a glass, things past and to come. When Sir Marmaduke Langdale was in Italy, he went to one of these magi, who did show him a glass, where he saw himself kneeling before a crucifix. He was then a Protestant; afterwards he became a Roman Catholic. He told Mr. Thomas Henshaw, R. S. S. this himself.'

BERYLLINA, in entomology, a species of chrysis. The head and thorax are of a greenish blue, abdomen green, rufous and blue, legs blue, with testaceous-dots.

BERYLLINUS, a species of cimex spinosus; thorax spined obtusely, and dentated; tips of the spines and bifid shield of the head greenish blue.

BERYLLUS, in entomology, a species of cimex rotundatus, that inhabits India. Middle size, pale border of the thorax orange; on the wing-cases, a ferruginous spot, and marginal black lines.

BERYTUS, in ancient geography, a sea-port town of Phœnicia, on the Mediterranean, so ancient as to be thought to have been built by Saturn. It was destroyed by Tryphon, but rebuilt by the Romans. Agrippa placed here two legions, whence it became a colony. It enjoyed the *jus Italicum*, and had an excellent school for the study of the law in Justinian's time. It is now called **BAROUT**, which see.

BES, or **BESSIS**, an ancient Roman weight containing two thirds of the *as*, or eight *uncie*. The bes originally weighed two asses; whence the origin of the word, quasi binus *as*.

BES was also used in land-measuring, to denote two thirds of the *jugerum*, or acre. See **JUGERUM**.

BESAILE, in common law, a writ that lies where the great-grandfather or great-grandmother was seized the day that he or she died, of any lands or tenements in fee-simple; and after his or her death, a stranger entered the same day upon him, and keeps out the heir.

BESAINT'. Be and saint. See **SAINT**.

BESANCON, an ancient and populous city of France, once the capital of the *ci-devant* province of Franche Comté, and now the head of an *arrondissement*, and chief town of the department of the Doubs. It has an university, now called a lyceum, and had formerly a parliament. It is seated on the Doubs which divides it into two parts, the greatest of which is a peninsula. The entrance is nearly closed by a mountain, on which is built a large fort, that commands the city. It is entered by six gates. There are many names of places, in and about the city, that are plain indications of its antiquity, as Chamars, Campus Martis, Chamuse, Campus Musarum, Chandane, Campus Diane, &c. The metropolitan church is built at the bottom of St. Stephen's hill, and is a very handsome structure. The great hospital of the order of the Holy Ghost is also a structure worth seeing. The streets are wide and handsome, and the houses are generally of stone, and well built; particularly in the neighbourhood of the square called Battan. On the invasion of

Gaul by the Romans, it was a town of some importance, and received successively the names of Civitas Sequanorum, Chrysopolis, and Visontium or Vesontio, of which its present name seems to be a corruption. Cæsar took it from the Sequani. It was at the height of its prosperity in the reign of Aurelian, but was afterwards nearly destroyed by the Germans and Huns. The Burgundians rebuilt it; and it received great privileges as a city of the empire, but was ceded to Spain at the peace of Westphalia. In 1668, and 1674, it was taken by the French, and confirmed to that power at the peace of Nimeguen. The archbishop was a prince of the empire until the peace of Ryswick. At present it is a bishop's see, and the metropolitan has for his diocese the departments of the Doubs, the upper Saone, and the Jura; under him are the bishops of Autun, Metz, Strasburg, Nancy, and Dijon. Here is a celebrated school of artillery, and a manufactory of arms. Other manufactures are silk stockings, woollen stuffs, linen, calico, leather, hats, clocks, and watches. The trade is in corn, wine, cattle, cheese, iron, pins, &c. The population is about 28,200. The learned institutions comprise an Academy of Sciences founded in 1752, a Literary and Military Society founded in 1753, and an Academy of Painting and Sculpture founded in 1773; which were all suppressed by the revolution, but have lately been revived. The public library contains some rare manuscripts, and a good collection of medals. The *arrondissement* has a population of 93,000, in seven cantons. Fifty-six miles east of Dijon, and 235 south-east of Paris.

BESANT, or **BEZANT**. See **BEZANT**.

BESBOROUGH ISLAND, an island on the north-west coast of America, in Norton-Sound, about six miles from the main land. Long. 161° 15' W., lat. 64° 10' N.

BESCATTER. Be and scatter. See **SCATTER**.

BESCHECK, a lake of Macedonia, in European Turkey, near the smaller lake of St. Basil, with two towns in its vicinity, called the greater and lesser Bescheck. It is about twelve miles in length, and six or eight in breadth; the adjacent country is very beautiful.

BESCHITAN, or the Five Mountains, a mountain range of Asia, in the government of Caucasus, forming the most northern of the Caucasian chain. A pyramid of hewn stone was shivered to pieces by lightning here about the year 1801. A hot spring of a sulphureous nature, and of the temperature of 156 degrees, is discharged from the side of the mountain, which, on the approach of rain is completely enveloped in vapor, and proves a true barometer to the neighbouring inhabitants. This range was known to Ptolemy by the name of the Hippiæ, or horse mountains, and very fine horses are still bred. The Circassians who dwell among these mountains, submitted to the czar Iwan Wassiliewitch in 1553. There is now an establishment of missionaries at its base, belonging to the Scottish Missionary Society and over which a native of North Britain has long presided. Distant 30 miles from Georgiëfsk.

BESCORN'. Be and scorn. See **SCORN**.

BESCRATCH'. Be and scratch. See **SCRATCH**.

BESCRAWL'. Be and scrawl. See SCRAWL.
 BESCREEN'. Be and screen. See SCREEN.
 BESCRIB'BLE. Be and scribble. See SCRIBBLE.

BESCUM'BER. Be and scumber. From Dutch *schuymer*, scum. To do any dirty act; to dirty; to scatter dirt or filth.

Our Muse is in mind for the untrussing a poet;
 I slip by his name; for most men doe know it;
 A critick, that all the world *bescumbers*
 With satyricall humours and lyrical numbers.

Ben Jonson.

BESCUTCH'EON. Be and scutcheon. See SCUTCHEON.

BESECH'. } Be and See. Goth. *saihwān*;
 BESEEN'. } Ang.-Sax. *seon*, *beseon*; Dutch
zien; Germ. *sehen*. To see, to look at. Vide SEE.

BESEECH', v. & n. } From Sax. *pecan*;
 BESEECH'ING, n. } Dutch *versoeken*. To
 BESEECH'ER, } entreat; to supplicate;
 BESEEK', } to implore; sometimes
 BESOUGHT'. } before a person. To
 beg; to ask before a thing.

I *beseech* thee for my son Onesimus, whom I have
 hogotten in my bonds. Philemon, 10.

I *beseech* you, Sir, pardon me; it is only a letter
 from my brother, that I have not all over-read.

Shakspeare.

But the voice of God
 To mortal ear is dreadful; they *beseech*
 That Moses might report to them his will,
 And terror cease; he grants what they *beseought*.

Milton.

But Eve fell humble, and *beseought*
 His peace, and thus proceeded in her plaint. Id.
 Before I come to them, I *beseech* your patience,
 Whilst I speak something to ourselves here present.

Spratt.

I, in the anguish of my heart, *beseech* you
 To quit the dreadful purpose of your soul.

Addison.

BESEEM', } Be and seem. Dutch *be-*
 BESEEM'ING, n. } *ziemen*. To become; to be
 BESEEM'LY. } fit; to be decent for.

What form of speech or behaviour, *beseemeth* us in
 our prayers to Almighty Good? Hooker.

This oversight

Beseems thee not, in whom such virtues spring.

Fairfax.

Verona's ancient citizens

Cast by their brave *beseeming* ornaments.

Shakspeare.

What thoughts he had, *beseems* not me to say;
 Though some surmise he went to fast and pray.

Dryden.

BESEEN'. From *besie*, skinner. This word,
 says Johnson, I have only found in Spenser.
 Adapted, adjusted, becoming.

Forth came that ancient lord and aged queen,
 Armed in antique robes down to the ground,
 And sad habiliments right well *beseen*.

Fairie Queene.

Then her they crowne their goddess and their
 queene,

And deck with flowres thy altars well *beseene*.

Spenser.

BESET'. Be and set. Sax. *berettan*. To
 besiege; to hem in; to enclose, as with a siege.
 To waylay; to surround. To embarrass, to per-

plex; to entangle; without any means of escape.
 To fall upon; to harass.

Alas! (quoth Absalon), and wala wa!

That trewe love was ever so yvell *besette*,
 Than kiss me—sin that it may be no better.

Chaucer. Canterbury Tales.

But they him spying, both with greedy force
 At once upon him ran, and him *beset*
 With strokes of mortal steel. Faerie Queene.

Draw forth thy weapon, we' are *beset* with thieves;
 Rescue thy mistress. Shakspeare.

Thus Adam, sore *beset* replied. Milton.

Sure, or I read her visage much amiss,
 Or grief *besets* her hard. Rowe.

We be in this world *beset* with sundry uneasinesses,
 distracted with different desires. Locke.

Cato shall open to himself a passage. Addison.

True fortitude I take to be the quiet possession of
 a man's self, and an undisturbed doing his duty,
 whate'er evil *besets*, or danger lies in his way. Id.

I know thou lookest on me as on a wretch
Beset with ills, and covered with misfortunes.

Id.

BESEW'. Be and sew. See SEW.

BESHADÉ'. Be and shade. See SHADE.

BESHINE'. Be and shine. See SHINE.

BESHREW'. Be and shrew. The original
 of this word is somewhat obscure; as it evidently
 implies to wish ill, some derive it from *heschryen*,
 Germ. to enchant. Topsel, in his Book of Ani-
 mals, deduces it from the shrew mouse, an ani-
 mal, says he, so poisonous, that its bite is a
 severe curse. A shrew likewise signifies a scold-
 ing woman; but its origin is not known.

Beshrew thee, cousin, which did'st lead me forth
 Of that sweet way I was in to despair. Shakspeare.

Now much *beshrew* my manners and my pride,
 If Hermia meant to say Lysander lied. Id.

Nay, quoth the cock, but I *beshrew* us both,
 If I believe a saint upon his oath.

Dryden's Fables.

BESHUT'. Be and shut. See SHUT.

BESIDE', } Be and side. Ang.-Sax. *side*;
 BESIDES'. } Dutch *siide*; Germ. *seyt*; Swed.

sida; by the side: distinguished from behind
 and before; out of the right course, either of
 path of direction, of mind. Something placed
 by the side; in addition; over and above, not
 according to though not contrary; not of the
 number.

And him *beside* marcht amorous Desyre,
 Who seemd of ryper yeares then the other swayne
 Yet was that other swayne this elder's sire,
 And gave him being, commune to them twayne.

Spenser.

The men said unto Lot, hast thou here any *besides*?
 Genesis.

Festus said with a loud voice, Paul, thou art
beside thyself; much learning doth make thee mad.

Acts.

Thereto a great advantage eke he nas
 Through his three double hands thrise multiplyde,
Besides the double strength that in them was:
 For still when fit occasion did betyde,
 He could his weapon shift from syde to syde,
 From hand to hand; and with such nimble sly,
 Could wield about, that ere it were espide,
 The wicked stroke did wound his enemy
 Behinde, *beside*, before, as he list apply. Spenser.

Only be patient, till we have appeased
The multitude *beside* themselves with fear. *Shakspeare.*

You are too wilful blame,
And, since your coming here, have done
Enough to put him quite *beside* his patience. *Id.*

Beside the hearse a fruitful palm-tree grows,
Ennobled since by this great funeral. *Fairfax.*

He caused me to sit down *beside* him. *Bacon.*
Doubtless, in man there is a nature found,
Beside the senses, and above them far. *Sir J. Davies.*

Of vagabonds we say
That they are ne'er *beside* their way. *Hudibras.*

At his right hand, Victory
Sat eagle-winged: *beside* him hung his bow. *Milton.*

Fair Lavinia fled the fire
Before the gods, and stood *beside* her sire. *Dryden.*

Besides, you know not, while you here attend,
The' unworthy fate of your unhappy friend. *Id.*

Fair is the king-cup that in meadow blows;
Fair is the daisy that *beside* her grows. *Gay.*

Now under hanging mountains,
Beside the falls of fountains,
Unheard, unknown,

He makes his moan. *Pope.*

And dead, as living, 'tis our author's pride
Still to charm those who charm the world *beside*. *Id.*

The Stoicks did hold a necessary connexion of
causes; but they believed that God doth act *præter* et
contra naturam, *besides* and against nature. *Bramhall.*

Providence often disposes of things by a method
beside and above the discoveries of man's reason. *South.*

It is *beside* my present business to enlarge upon
this speculation. *Locke.*

Outlaws and robbers, who break with all the world
besides, must keep faith among themselves. *Id.*

Precepts of morality, *besides* the natural corruption
of our tempers, are abstracted from ideas of sense. *Addison.*

Some wonder that the Turk never attacks this
treasury. But, *besides* that he has attempted it for-
merly with no success, it is certain that the Venetians
keep too watchful an eye. *Id.*

BESIEGE', *v. & n.*, } Be and siege. See
BESIEGE'MENT, } SIEGE. To beleague;
BESIEGE'ER, } to lay siege to; to be-
BESIEGE'ING. } set with armed forces;

to endeavour to win a town or fortress, by sur-
rounding it with an army, and forcing the de-
fendants, either by violence or famine, to give
admission.

And he shall *besiege* thee in all thy gates, until thy
high and fenced walls come down. *Deuteronomy.*

And after of her mischefe and her woe,
Now that she was *besieged* and ytake. *Chaucer. Cant. Tales.*

The queen, with all the northern earls and lords,
Intends here to *besiege* you in your castle. *Shakspeare.*

Thou shalt behold
Whether by supplication we intend
Address, and to begirt the almighty throne
Beseeching or *besieging*. *Milton.*

There is hardly a town taken in the common forms,
where the *besiegers* have not the worse of the bargain. *Swift.*

BESIL'VER. Be and silver. See SILVER.

BESISTAN, or BEZESTEIN, a name given by
the Turks to those places at Constantinople,
Adrianople, &c. where the merchants have their
shops, and expose their merchandises to sale.
Synonymous, therefore with BAZAAR, which see.

BESIT'. Be and sit. See SIT.

BESLAVE. Be and slave. See SLAVE.

BESLAVER. Be and slaver, or slabber. See
SLAVER.

BESLER (Basilius), an apothecary at Nurem-
berg in Germany, and an eminent botanist, pub-
lished a work entitled *Hortus Eystetensis*, and
gave name to the genus of plants called *besle-*
ria.

BESLERIA, in botany, a genus of the angio-
spermia order, and didymia class of plants. Of
this genus there are three species; viz. 1. *B.*
christata, with stalks growing single, and a five-
leaved involucre. 2. *B. lutea*, with simple
footstalks growing in clusters, and spear-shaped
leaves. 3. *B. melitifolia*, with branching foot-
stalks and oval leaves. All are natives of the
warm parts of America, and cannot be preserved
in this country without artificial heat

BESLIME'. Be and slime. See SLIME.

BESLUB'BER. Be and slubber, slobber,
slaver. See SLAVER.

BESLUR'RY. Be and slurry. See SLURRY.

BESMEAR'. Be and smear. See SMEAR.

BESMIRCH'. Be and smirch. See SMIRCH.

BESMOOTH'. Be and smooth. See SMOOTH.

BESMUT'. Be and smut. See SMUT.

BESNOW'. Be and snow. See SNOW.

BESNUFFED. Be and snuff. See SNUFF.

BESOLDE (Christopher), born at Tubingen,
1577, published a Synopsis of the Art of Politics,
and of the Transactions from the Creation of the
World to the reign of the emperor Ferdinand,

both in 8vo; A History of the Ottoman Em-
pire; A Brief Account of the Kings of Jerusa-
lem; Documents Illustrative of the History of
the Religious Houses in Wirtemberg, 4to; a
quarto volume of Philological Dissertations;

Documents connected with the Collegiate Church
of Stutgard, and with the Church of Backhenang;
and two treatises, entitled *Virginum Sacrarum*
Monumenta, and *Prodromus Vindiciarum Ecclē-*
siast. Wirtemb. 4to. He made a public abjura-
tion of Protestantism, and died in 1638

BES'OM. From Germ., *butzen*, to cleanse;
Sax. *bejm, hejma*; an instrument to sweep with.

I will sweep it with the *besom* of destruction, saith
the Lord of hosts. *Isaiah xiv. 22.*

Bacon commended an old man who sold *besoms*:
a proud young fellow came to him for a *besom* upon
trusty; the old man said, Borrow of thy back and
belly, they will never ask thee again; I shall dun
thee every day. *Bacon.*

BESORCH, a coin of tin, or some base
metal, current at Ormus, at the rate of seven
forty-ninth parts of a farthing sterling.

BESORE'. Be and sore, Ang.-Sax. *syrwan*,
syrwan, syrewn; to vex; teaze; to hurt; to
annoy; to mortify.

So him they led on to the courts of day,
Where never war nor wounds abide him more;
But in that house eternal peace doth play,
Acquiescing the souls that new *besore*,
Their way to heaven through their own blood did
score. *G. Fletcher. Christ's Triumph after Death.*

BESORT', *v. & n.* From the Latin *sors*; to
suit; to fit; to become; to arrange and dis-
pose wild distinct classes or kinds.

Such men as may *besort* your age,
And know themselves and you. *Shakspeare.*

I crave fit disposition for my wife,
With such accommodation and *besort*,
As levels with her breeding.

Id.

BESOT', Be and sot. Can it be,
BESOT'ED, } says the Ency. Met. from
BESOT'EDLY, } sodden, sod, sot? One
BESOT'EDNESS. } who sodden himself with
drinking. Thersites calls Ajax 'a sodden-witted
lord.' To infatuate; to stupify; to dull; to
take away the senses by enjoyment and too much
indulgence to doating.

Paris, you speak
Like one *besotted* on your sweet delights. *Shakspeare*.
Trust not that beauty; but restore the prize
Which he, *besotted* on that face and eyes,
Would rend from us. *Dryden*.

Swinish gluttony
Ne'er looks to heaven amidst his gorgeous feast,
But, with *besotted* base ingratitude,
Crams, and blasphemous his feeder. *Milton*.

Or fools *besotted* with their crimes,
That know not how to shift betimes. *Huainbras*.
He is *besotted*, and has lost his reason; and what
then can there be for religion to take hold of him by?
South.

BESOUR'. Be and sour. See SOUR. To
wax sour, or sharp.

How should we abhor, and loath, and detest this
old leaven that so *besoures* all our actions; this hea-
thenism of unregenerate carnal nature which makes
our best works so unchristian. *Hammond*.

BESOZZI, or BEZUTIUS (Ambrose), a painter
of eminence, born at Milan in 1648. He worked
some time under Joseph Danedi, or Montalti, and
afterwards went to Rome, where he studied from
the antiques and the pictures of the greatest mas-
ters, and at last perfected himself in the school
of Ciro Ferri. His great excellency consisted in
painting architecture, friezes, imitations of bass-
relievos, and other decorations. He died at
Milan in 1706, aged fifty-eight.

BESPAN'GLE. Be and spangle. See
SPANGLE. Any thing shining; brilliant; drops
in clusters.

For now the last day's evening dew
Even to the full itself doth shew,
Each bough with pearl bespangling. *Dayton*.

Not Berenice's locks first rose so bright,
The heavens *bespangling* with dishevelled light. *Pope*.

BESPAT'TER. Be and spatter. See SPAT'TER.
To besmear and soil by spitting; to throw filth
at random at any object, so as partially and ir-
regularly but not wholly to cover it; figuratively,
to asperse and calumniate.

Those who will not take vice into their bosoms,
shall yet have it *bespatter* their faces.

Government of the Tongue.

His weapons are the same which women and chil-
dren use; a pin to scratch, and a squirt to *bespatter*.
Swift.

Fair Britain, in the monarch blest,
Whom never faction could *bespatter*. *Id*.

BESPAWL'. Be and spawl, Ang.-Sax.
spætan. To spit; to spattle. See SPAUL.

They *bespatted* hym, and *byspitted* hym.

Ball. Acts of English Votaries.

See how this remonstrant would invest himself,
conditionally, with all the rheum of the town, that
he might have sufficient to *bespaul* his brethren.

Milton. Animad.

BESPEAK', } Be and speak. See SPEAK.
BESPEAK'ER. } To bespeak is not merely to

give utterance to words; we use it to express a
wish; to put in a claim; to order, as of a
tradesman, for something forthcoming; to be-
speak a play is to request its performance at a
particular time; to request attention; to ad-
dress; to betoken; to foreshow.

With hearty words her knight she 'gan to cheer,
And, in her modest manner, thus *bespoke* :
Dear knight— *Faerie Queene*.

If you will marry, make your love to me!
My lady is *bespoke*. *Shakspeare*.

Here is the cap your worship did *bespeak*. *Id*.

He shook his mitred locks, and stern *bespoke*

How well could I have spared for thee, young swain,
Enow of such as for their bellies' sake

Creep, and intrude, and climb into the fold. *Milton*.

At length with indignation thus he broke

His awful silence, and the powers *bespoke*. *Dryden*.

Then staring on her with a ghastly look,

And hollow voice, he thus the queen *bespoke*. *Id*.

My preface looks as if I were afraid of my reader,

by so tedious a *bespeaking* of him. *Id*.

When Baboon came to Strutt's estate his trades-
men waited upon him to *bespeak* his custom. *Arbuthnot*.

O do not run too fast : for I

Will but *bespeak* thy grave and die. *Marvel*.

A heavy writer was to be encouraged, and accord-
ingly many thousand copies were *bespoke*. *Swift*.

They started fears, *bespoke* dangers, and formed

ominous prognosticks, in order to scare the allies. *Id*.

When the abbot of St. Martin was born, he had so
little the figure of a man, that it *bespoke* him rather a
monster. *Locke*.

He has dispatched me hence,

With orders that *bespeak* a mind composed. *Addison*.

They mean not with love to be the *bespeaker* of the

work, but delight in the work itself. *Wotton*.

There dwelt a sage called Discipline; his head,

Not yet by time completely silvered o'er,

Bespoke him past the bounds of peakish youth,

But strong for service still and unimpaired. *Courper*.

BESPECK'LE. Be and speckle. See SPECKLE.

A peculiar kind of spotting; an intermixture of
colors; to mark.

Her chaste and modest vail, surrounded with cele-
stial beams, they overlaid with wanton tresses, and in
a flaming tire *bespeckled* her with all the gaudy al-
lurements of a whore.

Milton. Of Reformation in England.

BESPENT'. Be and spend, from the Latin

pendo, to weigh. See SPEND. To weigh out;

to give out; to distribute.

BESPET', } Be and spit. See SPIT.

BESPIE'. } Be and spice. See SPICE. To

mix various species of aromatics; to drug or to

flavor liquor with aromatic ingredients.

Thou might'st *bespie* a cup

To give mine enemy a lasting wink. *Shakspeare*.

BESPOT'. Be and spot. See SPOT. To

cover with spots.

Thy blameful lines, *bespotted* so with sin,

Mine eye would cleanse, e'er they to read begin.

Dayton.

BESPREAD'. Be and spread. See SPREAD.

At peep of day, when in her crimson pride

The morn *bespreads* with roses all the way

Where Phœbus' couch with radiant course must glide,

The hermit bends his humble knees to pray.

Thomas Lodge.

BESPRENT'. To besprinkle.

And first within the porch and jaws of hell

Sate deep remorse of conscience, all *besprent*

With tears. *Mirror for Magistrates*.

My head *besprent* with hoarie frost I finde,
An by myne eye the crowe his clawe doth wrigat.

Spenser.

His nuptial bed,
With curious needles wrought, and painted flowers
bespread. *Dryden.*

They ceased ; when on the tuneful stage
Advanced a bard, of aspect sage ;
His silver tresses, thin *besprent*,
To age a graceful reverence lent. *Warton.*

BESPRIN'KLE. Be and sprinkle. See
SPRINKLE. To asperse ; to scatter about ; to
wet any object, as by showers or drops.

Herodotus, imitating the father poet, whose life he
lad written, hath *besprinkled* his work with many
fabulosities. *Brown.*

A purple flood
Flows from the trunk, that welters in the blood :
The bed *besprinkles*, and bedews the ground.
Dryden.

BESPUT'. Be and spurt. See SPURT. To
cast forth ; a rapid irregular movement ; to spurt
water is to eject it from a syringe, from the
mouth, or any vessel ; to besput is thus to cast
any fluid upon an object.

I suppose, and more than suppose, it will be no-
thing disagreeing from Christian meekness, to handle
such a one in a rougher accent, and to send home his
haughtiness well *bespurred* with his own holy water.

Milton.

BESSARABIA, a territory of Russia in Eu-
rope, comprehending a part of Moldavia ceded
by the Porte at the peace of Bukharest in 1812,
and Bessarabia Proper, called Búják by the
Turks. Between 45° and 48° N. lat., 28° and
31° E. long., containing about 8800 square miles.
It is bounded on the south by the Pruth and the
Danube, on the west by a small river, called
Rakitno, on the north by the Dniester, and on the
east by the Black sea ; and divided into two
parts : 1. The Moldavian division containing
seven trinités, or circles ; Khotini, Khotim, or
Hoczim, Soróka, Orkhéi, Faltshi, Khotornitchan,
Codrz, and Gretchan. 2. Bessarabia Proper,
subdivided into the circles of Bender, Kausharian,
and Ismâil-Tomarovian. Bessarabia Proper was
the Scythian desert of the ancients. The popu-
lation has been estimated at 300,000 ; but it is
probably much below that number, as the country
has been almost depopulated by the wars of the
neighbourhood. Bulgarians, Moldavians, Ar-
menians, Jews, Tartars, and Servians constitute
the bulk of its inhabitants ; and to these may be
added Gipsies. In the lakes of Ak-kirman, salt
is manufactured, shagrin at Ismâil ; these are
almost the only manufactures. The Russian
government has raised a considerable revenue
from the fisheries, and salt works, as likewise
from duties on spirits, &c. the whole amounting
to perhaps 3,000,000 piastres or £150,000.

BESSARION, titular patriarch of Constanti-
nople, was born at Trebizond. He was very
zealous to reunite the Greek with the Latin church,
and engaged the emperor John Paleologus to
interest himself in bringing about this great work.
He appeared at the council of Florence, and
harangued the fathers on this topic. The Greek
schismatics conceived so mortal an aversion to

him, that he was obliged to remain in Italy, where
pope Eugenius I. honored him with the purple
in 1439. He fixed his abode in Rome, and
would have been raised to the papal chair, if
cardinal Alain had not opposed it, as injurious
to the Latin church to choose a Greek, however
illustrious. He was employed in several embas-
sies, but that to France proved fatal to him.
When legate to this court, he happened to visit
the duke of Burgundy, before he saw Louis XI.
which so piqued the capricious haughty mo-
narch, that he gave him a very ungracious recep-
tion. He even took the cardinal legate by the
beard, saying Barbara Græca genus retinent quod
habere solebant ; an affront which so chagrined
him, according to Matthieu, as to occasion his
death at Ravenna, upon his return in 1472.
Bessarion loved and protected the literati.
Argyropilus, Theodore of Gaza, Poggio, Lau-
rentius Valla, &c. formed in his house a kind of
academy. His library was large and curious ;
and the synod of Venice long preserved it. He
left some works, which rank among those which
helped to revive letters ; as, Defensio Doctrinæ
Platonice, &c. Translations of some pieces of
Aristotle, Orations, Epistles, &c.

BESSE, a copper coin, current at the island
Ormus, in the Persian gulf, equal to four cosbegs,
or 1½d sterling.

BESSE, in ichthyology, the sea wolf.

BESSI, the ancient inhabitants of Bessica, a
fierce and barbarous people, noted for their rob-
beries. Their chief city Uscudama is now known
by the name of Adrianople. They lived under
their own kings till the consulate of M. Licinius,
Lucullus, and C. Cassius Varus ; when Lucullus
invaded their country, and having gained a great
victory over them, took their metropolis, and
subjected the whole nation to the Roman laws.
The Romans, notwithstanding they had subdued
them by force of arms, still suffered them to live
under their own kings. But Piso, while he
governed Macedon as proconsul, having treache-
rously seized Rabocentus, whom Suetonius calls
prince of the Bessi, caused him to be publicly
beheaded. This so exasperated the nation, that
they revolted ; but were overcome by Octavius
the father of Augustus. During the civil wars
of Rome, they attempted anew to recover their
liberty, but were again defeated by the famous M.
Brutus. In the reign of Augustus, one Volo-
gesus, a native of the country, and priest of Bac-
chus, having, under pretence of religion, drawn
together great crowds of people, made himself
master of this country ; and entering the Cher-
sonesus, committed the most dreadful ravages.
He was at last, however, overcome by L. Piso ;
who obliged the inhabitants to lay down their
arms. From this time the Bessi continued sub-
ject to the Romans, without attempting any more
to recover their liberty.

BESSICA, in ancient geography, a district of
Thrace towards mount Hæmus, to the south of
the Hebrus ; inhabited by the Bessi.

BESSIS CENTESIMÆ denotes two thirds of
centesimal interest, or usury at 8 per cent.

BEST, *adj. & adv.* Used as the irregular
BEST'NESS. { superlative of good. Sax.

bet, bezepa, bezt, good, better, best. That

which has good qualities in the highest degree ; the utmost power ; the highest perfection. To improve to the utmost.

For I dare swere wel, if that she
Had among tenne thousande ybe,
She wolden have be, at [with] the *beste*,
A chefe myroure of all the feste.

Chaucer. Boke of the Duchesse.

He shall dwell in that place which he shall choose,
in one of thy gates, where it liketh him *best*.

Deut. xxiii. 16.

And he will take your fields, even the *best* of them,
and give them to his servants. *1 Sam. viii. 14.*

When the *best* things are not possible, the *best* may
be made of those that are. *Hooker.*

Let there be freedom to carry their commodities
where they may make the *best* of them. except there
be some special cause of caution. *Bacon.*

'The duke did his *best* to come down. *Id.*

I profess not talking : only this,
Let each man do his *best*. *Shakspeare.*

When he is *best*, he is little more than a man ;
and when he is worst he is little better than a beast. *Id.*

He does this to the *best* of his power. *Locke.*

I think it a good argument to say, the infinitely
wise God hath made it so, and therefore it is *best*.
But it is too much confidence in our own wisdom, to
say, I think it *best*, and therefore God hath made it
so. *Id.*

My friend, said he, our sport is at the *best*.
Addison.

His father left him an hundred drachmas ; Alnas-
char, in order to make the *best* of it, laid it out in
glasses. *Id.*

We set sail, and made the *best* of our way till we
were forced, by contrary winds, into St. Remo. *Id.*

An evil intention perverts the *best* actions, and
makes them sins. *Id.*

BESTAIN'. Be and stain. Chaucer uses
distan. See STAIN. To mark with spots ; to
spoil or vitiate the color.

'We will not line his thin *bestained* cloke
With our pure honours. *Shakspeare.*

BESTARCHIA, a dignity in the courts of the
emperors of Constantinople, supposed to answer
to that of the master of the chancery among us.
The word seems to have been formed from *vestar-
tarcha*, by a change of the *v* into *b*.

BESTEAD'. Be and stead. See STEAD.
To be in place ; to be in stead. It also signifies
accommodation, good or ill : when used in this
sense, Dr. Johnson says it should be written
bested. Milton uses it in the sense of advantage,
—'How little you *bestead*;' that is confer, or
bestow.

For were a manne for her *bestadde*,
She woulde ben right sore a dradde.

Chaucer. Romaunt of the Rose.

They shall pass through it hardly *bestead*, and
hungry. *Isaiah.*

Hence, vain deluding joys !

The brood of folly, without father bred ;

How little you *bestead*,

Or fill the fixed mind with all your toys !

Milton.

He who looks so deformedly and dismally, who to
outward sight is so ill *bestead*, and so pitifully ac-
counted, hath latent in him much of admirable beauty
and glory. *Burrow.*

BESTIAL', *n.* & *adj.* } See BEAST. To re-
BESTIAL'ITY, } duce what is in its own
BE'STIALIZE, } nature superior, to the
BE'STIALLY. } condition or state of a
beast ; a degradation of reason and of humanity.

I have lost the immortal part of myself, and what
remains is *bestial*. *Shakspeare. Othello.*

O foul descent ! that I who erst contended
With gods to sit the highest, am now constrained
Into a beast, and mixed with *bestial* slime,
This essence to incarnate and imbrute,
That to the height of Deity aspired.
But what will not Ambition and Revenge
Descend to. *Milton.*

For those, the race of Israel oft forsook
Their living strength, and unfrequented left
His righteous altar, bowing lowly down
To *bestial* gods. *Id.*

The things promised are not gross and carnal,
such as may court and gratify the most *bestial* part
of us. *Decay of Piety.*

His wild disordered walk, his haggard eyes,
Did all the *bestial* citizens surprize. *Dryden.*

What can be a greater absurdity, than to affirm
bestiality to be the essence of humanity, and darkness
the centre of light ?

Arbutnot and Pope's Mart. Scrib.

Thus fornication, incest, rape, and even *bestiality*,
were sanctified by the amours of Jupiter, Pan, Mars,
Venus, and Apollo. *Goldsmith.*

BESTIARII, in Roman antiquity, those who
fought against beasts, or who were exposed to
them by the sentence of the law. There were
four kinds of *bestiarii* ; viz. 1. Those who made
a trade of it, and fought for money. 2. Such
young men as, to show their strength and dex-
terity in managing their arms, fought against
beasts : Augustus encouraged this practice in
young men of the first rank ; Nero exposed him-
self to it : and it was for the killing beasts in the
amphitheatre, that Commodus acquired the title
of the Roman Hercules. 3. The third kind was,
where several *bestiarii* were let loose at once,
well armed, against a number of beasts. 4. The
fourth kind were those condemned to the beasts.
consisting either of prisoners taken in war, or
slaves guilty of some enormous crimes ; these
were exposed naked, and without defence : nor
did it avail any thing to conquer and kill the beast,
fresh ones being continually let loose on them, till
they were put to death. But it seldom happened
that two were required for the same man ; on
the contrary, one beast frequently despatched
several men. Cicero mentions a lion, which
alone despatched 200 *bestiarii*. Those who
succeeded the first were called *εφεδροι*, and the
last *εσχατοι* ; among the Romans *meridiani*.

BESTICK. Be and stick. See STRICK. Ang.-
Sax. *sticcan*. To stick, to pierce.

Truth shall retire

Bestuck with slanderous darts ; and works of faith
Rarely be found : so shall the world go on,
To good malignant, to bad men benign. *Milton.*

BESTILED. Be and still. See STILL.
To make quiet ; to calm ; to tranquillise.

The choral muses droop ! Their harps unstrung,

The lutes and laurel wreaths neglected fall !

Commerce *bestilled* her many-nationed tongue,

Whilom so busy in her bustling hall. *Cunningham.*

BESTIR. Be and stir. See **STIR**. To steer, to move, to put into vigorous action. It is seldom used otherwise than with the reciprocal pronoun.

I am scarce in breath, my lord.—No marvel, you have so *bestirred* your valour, you cowardly rascal!
Shakespeare.

As when men wont to watch
On duty, sleeping found by whom they dread,
Rouse and *bestir* themselves ere well awake.

Milton.

Bestirs her then, and from each tender stalk
Whatever earth, all-bearing mother, yields,
She gathers.

Id.

But, as a dog that turns the spit
Bestirs himself, and plies his feet
To climb the wheel, but all in vain,
His own weight brings him down again.

Hudibras.

What aileth them, that they must needs *bestir*
themselves to get in air, to maintain the creature's
life.

Ray.

BESTORM. Be and storm. See **STORM**.
To agitate, to drive about furiously; to assail
with irresistible violence.

Religion! Providence! an after state!
Here is firm footing; here is solid rock!
This can support us; all is sea besides:
Sinks under us, *bestorms*, and then devours.

Young.

BESTOW. } Ang.-Sax. stow. That is
BESTOW'ING. } place. Bestow is to collect
BESTOW'ER. } into a place; to put, to confer,
to give or grant. It has a very extensive applica-
tion, as the following extracts will show.

All the dedicated things of the house of the Lord
did they *bestow* upon Baalim. 2 Chron. xxiv. 7.

And thou shalt *bestow* that money for whatsoever
thy soul lusteth after, for oxen, sheep, or for wine.
Deut. xiv. 26.

And when he came to the Tower, he took them
from their hand, and *bestowed* them in the house.
2 Kings v. 24.

Our Saviour doth plainly witness, that there should
not be as much as a cup of cold water *bestowed* for his
sake, without reward.

Hooker.

All men would willingly have yielded him praise;
but his nature was such as to *bestow* it upon himself,
before any could give it.

Sidney.

Good reverend father, make my person yours;
And tell me how you would *bestow* yourself.

Shakespeare.

And though he was unsatisfied in getting,
Which was a sin; yet in *bestowing*, madam,
He was most princely.

Id.

That bay they enter which unto them owes
The noblest wreaths which victory *bestows*.

Marvell.

Sir Julius Cæsar had, in his office, the disposition
of the six clerks' places; which he had *bestowed* to
such persons as he thought fit.

Clarendon.

Spain to your gift alone her Indies owes,
For what the powerful takes not, he *bestows*.

Dryden.

They all agree in making one supreme God; and
that there are several beings that are to be worshipped
under him; some as the *bestowers* of thrones, but
subordinate to the Supreme.

Stillington.

BESTRAUGHT. *part.* Of this participle
I have not found the verb; by analogy we may

derive it from *bestract*; perhaps it is corrupted
from *distraught*. *Distraught*; mad; out of one's
senses; out of one's wits.

O goddesse sonne, in such case canst thou sleepe
Ne yet, *bestraught*, the daungers doest foresee
That compasse thee? or hearest the faire windes blowe?
Surrey.

Ask Marian, the fat alewife, if she knew me not.
What! I am not *bestraught*.

Shakespeare.

BESTREAK. Be and streak. See **STREAK**.
To draw a stroke with a pen, a line; to *bestreak*
is to mark with lines.

Besides, as presents for my soul's delight,
Two beauteous kids I keep *bestreaked* with white.

Beattie.

BESTREW. } Be and strew. See **STREW**.
BESTROWN. } To scatter; to disperse; to
sprinkle over a surface.

Good morrow to this primrose too,

Good morrow to each maid,

That will with flowers the tomb *bestrew*

Wherein my love is laid.

Herrick.

Those blossoms also, and those dropping gums,
That lie *bestrown* unsightly and unsmooth,
Ask riddance, if we mean to tread with ease.

Milton.

Pale pansies o'er his corpse were placed,

Which, plucked before their time,

Bestrewed the boy, like him to waste

And wither in their prime.

Collins.

BESTRIDE. Be and stride. See **STRIDE**.
To stretch; generally applied to the legs; whe-
ther to cross a horse, to pass over, to pass on
with effect, to walk with energy, or to stand
over an object; to command or secure it.

He *bestrid*

An o'erpressed Roman, and i' the consul's view

Slew three opposers: Tarquin's self he met,

And struck him on his knees.

Shakespeare.

If thou see me down in the battle, and *bestride* me,
so; 'tis a point of friendship.

Id.

He doth *bestride* a bleeding land,

Gasping for life under great Bolingbroke.

Id.

Why, man, he doth *bestride* the narrow world

Like a colossus.

Id.

That I see thee here,

Thou noble thing! more dances my rapt heart,

Than when I first my wedded mistress saw

Bestride my threshold.

Id.

He *bestrides* the lazy pacing clouds,

And sails upon the bosom of the air.

Id.

Venetians do not more uncouthly ride

Than did their lubber state mankind *bestride*.

Dryden.

Make him *bestride* the ocean, and mankind

Ask his consent to use the sea and wind.

Waller.

The bounding steed you pompously *bestride*,
Shares with his lord the pleasure and the pride.

Pope.

With the first pause the resting rowers gave,
He waits not—looks not—leaps into the wave,
Strives through the surge—*bestrides* the beach—and
high

Ascends the path familiar to his eye.

Byron.

BESTRUT. Be and strut. See **STRUT**. The
common word is a-strut, assumed consequence
in walking. Swelled out, distended, is the pri-
mary sense: 'Paps *bestrut* with milk,' occurs in
Holland's *Plutarch*.

BESTUD'. Be and stud. Ang.-Sax. *studu* : A post, ; a pillar; any thing fixed; from *stæd*, *stud*, the past participle of the verb to stand.—*Ency. Met.* To bestud, is to fix any thing like gems in a crown, or stars in the firmament, that keep their places.

And when the golden glorious sun goes down,
Would she put on her star-bestudded crown. *Drayton.*

The sea o'er fraught would swell, and the' unsought
diamonds

Would so imblaze the forehead of the deep,
And so bestud with stars, that they below

Would grow inured to light, and come at last
To gaze upon the sun with shameless brows.

Milton's Comus.

BESWAD'DLED. Be and swaddle. See **SWADDLE**. To swathe, to fasten, to bind together.

Hence cradles see, with lispings statesmen spawn!
And infant limbs beswaddled in the lawn. *Whitehead.*

BESWYN'KLE. Ang.-Sax. To labor. Hence Chaucer calls a laborer, *swinker*.

BET, v. & n. } Sax. *peðian*, to wager; *peo*,
BET'ING, } a wager; from which the etymologists derive bet. I should rather imagine it to come from *betan*, to mend, increase, or bet, as a bet increases the original wager. A wager; something laid to be won upon certain conditions. *Betan* is to better, to support, says the *Ency. Met.*; and hence concludes, that to bet is to support an opinion by risking any thing upon it.

He drew a good bow : and dead? John of Gaunt
loved him well, and *betted* much upon his head.

Shakespeare.

He flies the court for want of clothes ;
Cries out 'gainst cocking, since he cannot bet.

Ben Jonson.

The god unhappily engaged,
Complained, and sighed, and cried, and fretted,
Lost every earthly thing he *betted*. *Prior.*

The hoary fool, who many days
Has struggled with continued sorrow,
Renews his hope, and blindly lays
The desperate bet upon to-morrow. *Id.*

His pride was in piquette,
Newmarket fame and judgment at a bet. *Pope.*
The gamester too, whose wits all high or low,
Oft risks his fortune on one desperate throw,
Comes here to saunter, having made his *bets*,
Finds his lost senses out and pays his debts.

Goldsmith.

BETA, *βeta*, the second letter in the Greek alphabet, answering to our B; also used by the Greeks as a numeral for two.

BETA, in botany, the beet; a genus of the dignia order, and pentandria class of plants; ranking in the natural method under the twelfth order, holoraceæ : *CAL.* four leaves; there is no corolla; the seeds are kidney-shaped, and situated within the base of the calyx. There are four species, viz. 1. *B. cicla*, the root of scarcity, has been much recommended to agriculturists of late years. Mr. Loudon (*Practice of Agriculture*, l. iii. p. 798,) says, 'it is supposed by Professor Thær to be a mongrel between the red and white beet. It has a much larger bulb than either, and that bulb, in some varieties, grows in great part above ground. It has been a good deal cultivated in Germany and Switzerland, both for its

leaves and roots; the leaves are either used as spinach or given to cattle; and the roots are either given to cattle, used in distillation, or for extracting sugar. The culture of the field-beet in Britain is very recent, and it may be questioned whether it has any advantages over the turnip for general agricultural purposes. It admits, however, of being cultivated on ridgelets, and with as little manual labor as the turnip, while it will prosper on a stronger soil, and near large towns it is not liable to the depredations usually committed on turnips or carrots, as the root is unpalatable either raw or boiled. The variety preferred in Germany is one slightly tinged with red for cattle, and the pale-yellow variety for the distillery and sugar manufacture. It is also called the field-beet, and is in England, particularly near London, applied to the fattening of stock, and the feeding of milch cows. Their milk is said to be much improved and increased by it. 2. *B. hortensis*, the common white beet, is cultivated in gardens for the sake of its leaves, which are frequently used in soups. The root seldom grows larger than a man's thumb. 3. *B. maritima*, the sea beet, grows naturally by the sea side, and in salt marshes, in many parts of England. It has been supposed by many to be only a variety of the common white beet; but Mr. Miller assures us he has been unable to make any variation in them by culture. The Hortus Kewensis distinguishes a species of this name by its having its flowers in pairs. 4. *B. vulgaris*, the red beet, with a pyramidal root, has large, thick, succulent leaves, which are for the most part of a dark green or purple color. The roots are large, and of a deep red. The larger these roots grow the tenderer they are, and the deeper their color the more they are esteemed. The varieties of this species are the common red beet, the turnip-rooted beet, and the green-leaved red beet.

The common white beet is sown by itself, in the beginning of March, upon an open spot of ground, not too moist. When the plants have put out four leaves, the ground should be hoed as for carrots, carefully cutting up the weeds, and also the plants where too near each other, leaving them at least six inches asunder. In three or four weeks, the ground should be hoed a second time, to cut up the weeds and thin the plants, for by this time they will be out of danger; so should not be left nearer than eight or nine inches, if regard is had to the goodness of the leaves; and if it be of the Swiss kind, with broad leaves, the plants must not be nearer than a foot. In six weeks after, the ground should be hoed over a third time, to destroy weeds. After this the plants will spread and prevent the weeds from growing, and the leaves will soon be fit for use. The outer large leaves should be first gathered, leaving the small inner ones to grow large; by which method a small spot of ground will supply a moderate family for a whole year, provided the plants are not allowed to run to seed, for in that case they will not be good. The red beet is frequently sown with onions, carrots, or parsnips; but if these are not to be soon removed, the beets ought to be sown by themselves. They require a deep light soil;

the seeds should be sown in March, and must be treated in the same manner as the former sort; but the plants should not be left nearer than a foot, or in good land a foot and a half; for the leaves will cover the ground at that distance. The roots will be fit for use in autumn, and continue good all winter; but in the spring, when they begin to shoot, they will be hard and stringy.

The juice expressed from the roots is a powerful errhine. The root of the red beet is sometimes used to improve the color of claret. By some it is recommended to cultivate the white beet in large quantities as food for cattle. Margraff, the Prussian chemist, first procured sugar from the root of the white beet in 1747. At the commencement of the present century the chemists of France bestowed great attention upon this subject. For a description of the mode of preparing the sugar, see Huet de la Croix, *Notice sur la Betterave, considérée principalement sous le rapport des bénéfices que sa culture doit procurer au cultivateur*, 8vo. Paris, 1812.

BETAG'. Be and tag. To tack or tag; to knit, bind, connect.

The last grave fop of the last age,
In a superb and feathered hearse,
Bescutcheoned and *betagged* with verse.

Churchill.

BETAH, or **TIBHATH**, a city of Syria, which David took from Hadadezer. 2 Sam. viii. 8.

BETAILED. Be and tail. See **TAIL**.

BETAKE'. Be and take. See **TAKE**. To give, to recommend, to take to, commit to, deliver to, resort or recur to.

I trust in Goddes bountie; and therefore
My marriage, and min estat, and rest,
I him *betake*, he may don as him lest.

Chaucer. *Canterbury Tales*.

But Absolon! that saith full oft; Alas!
My soul *betake* I unto Sathanas,
But me were lever than all this town (quod he),
Of this despit awroken for to be.

Id.

Then to his hands that writ he did *betake*,
Which he disclosing read.

Spenser.

The adverse party *betaking* itself to such practices
as men embrace, when they behold things brought to
desperate extremities.

Hooker.

Thou tyrant!
Do not repent these things; for they are heavier
Than all thy woes can stir: therefore *betake* thee
To nothing but despair.

Shakespeare.

The rest, in imitation, to like arms
Betook them, and the neighbouring hills uptore.

Milton.

Soft she withdrew; and like a wood-nymph light,
Oread or Dryad, or of Delia's train,
Betook her to the groves.

Id.

With ease such fond chimeras we pursue,
As fancy frames for fancy to subdue;
But when ourselves to action we *betake*,
It shuns the mint, like gold that chymists make.

Dryden.

BETALK'. Be and talk. See **TALK**. To tell; to give an account.

BETEL, or **BETLE**, in botany, a name given to an Indian plant (a species of piper). See **PIPER**.

BETEL, or **BETLE**, is more commonly used for a compound masticatory, in great request in

the East; composed of the nut of the areca catechu, in the proportion of one-half, one-quarter of quick lime, and one-quarter of the leaves of the piper betle and tobacco. The lime used with the nut is called chunam, and is obtained from the calcination of shells, as producing the finest kind; it is employed either boiled or raw. The latter has undergone no change; the former is cut in slices, boiled with a small quantity of terra japonica, and then dried.

The immediate consequences of eating this compound are reddening the saliva, and giving a bright hue to the lips; in progress of time, the teeth are rendered quite black by it; if the chunam be omitted, the saliva will not be tinged; and its pernicious operation on the enamel of the teeth may be averted, by rubbing them with a preparation that coats them with a black substance, which does not yield to any dentrifice, and preserves them from corrosion. The effects which recommend it are the dispelling of nausea, exciting an appetite, and strengthening the stomach. It also possesses nutritious and enlivening qualities, which render it particularly acceptable.

As an article of luxury betel has given rise to various ceremonial usages in the East. Persons of the more polished classes, after the first salutation, present it as a token of politeness: to omit it would be considered neglect, and its rejection would be an affront. No one of inferior rank should address a dignified individual without the previous chewing of betel; two people seldom meet without exchanging it; and it is always offered on occasion of ceremonious interviews.

The box containing it is of silver or gold, and of elegant workmanship. In some countries it is not uncommon for the guest who receives the betel from his host to pass it between his thumb and fore-finger, and apply his own chunam, which never gives offence. Philtres and charms are often conveyed with the chunam. The Mahomedans abstain from it as an indulgence during the Ramadan, and females of the higher ranks are said to pass their lives in doing little else than chewing it. When the Cingalese retire to rest at night they fill their mouths with it, and retain it there until they awake. The poor keep it in straw purses, lodged in some fold of their dress. Betel is a considerable article of traffic in India, China, and indeed throughout Asia. In the British settlements of Bombay, Madras, and Bengal, the value of it, as an import, recently amounted in a single year to £138,836.

BETELGUELE, or **BEDELGAEE**, a fixed star, of the first magnitude, in Orion's hind shoulder.

BETEN, in ancient geography, a town in the tribe of Ashur.

BETEEM'. From Ang.-Sax. *tæmian*. To pour forth; to produce; to give; to grant; to bestow.

So would I, said the' enchanter, glad and fain
Beteem to you his sword, you to defend;
But that this weapon's power I well have kenned
To be contrary to the work that ye intend.

Faerie Queene.

Rain, which I could well

Beteem them from the tempest of mine eyes.

Shakespeare.

Although he could have well *beteemed* to have thanked him of the ease he professed, yet loving his own handy-work, modestly refused him.

Milton. Animad.

BETH, the second letter of the Hebrew alphabet, answering to our B, and used also by the Jews as a numeral for two. Beth, in literary history, makes the title of a multitude of books in the Hebrew language; e. gr. Beth Avoth, or the house of the fathers; Beth Elohim, or the house of God; Beth Israel, or the house of Israel, &c.

BETHABARA, in ancient geography, the house of passage; a term therefore by many referred to the passage at Jericho, where the Israelites passed over dry-shod; by Lightfoot, to the passage at Scythopolis: but Cellarius refers it to the mid-way between both, because there were doubtless several passages or fords on the Jordan. Here John is said to have baptised on the other side Jordan, John i. 28.

BETHABARA, a town of North Carolina, on the west side of Grassy Creek, which unites with the Gargales, and several others, and falls into the Yadkin. This town was settled in the year 1753 by the Moravian brethren, who emigrated from Pennsylvania. It is seven miles north-west of Salem, and 183 west of Halifax.

BETHAGLIA, or BETH-HOGLAH, a town of the tribe of Benjamin (Joshua xviii. 21). In Jerome's time there was a village called Agla, ten miles from Eleutheropolis, towards Gaza, and supposed to be Bethaglia.

BETHANIA, a post-town of North Carolina, four miles north-west of Bethabara. It is regularly laid out, and was settled about the year 1759, by Moravians from Pennsylvania. It is ten miles north-west of Salem.

BETHANIA, or BETHANY, a village and tract of land, at the foot of mount Olivet, on the west side, about two miles east of Jerusalem, where Lazarus dwelt and was raised from the dead; and where the ascension of our Saviour happened. The Turks still pretend to show Lazarus's house and grave. They also show the house of Mary Magdalen, at a little distance. Dr. Richardson was shown them both, as he was told, in 1818. The name of Bethany was sometimes extended to the whole tract of ground from the village itself to Bethpage (John xxiv. 50, Acts i. 12.), a circumstance which ought to be borne in mind, in order to prevent an apparent contradiction between the account of the resurrection given by St. Luke in his Gospel, and that afterwards given in the Acts of the Apostles. The Bethany mentioned in the Gospel, is the district including the part of the Mount of Olives mentioned in the Acts.

BETHARA, a place south of the Galilean Sea; upon the borders of Ephraim, where the Midianites, pursued by Gideon, crossed the Jordan.

BETHARAN, in ancient geography, a town of Paræa, on the other side Jordan, said to have been called Livias or Libias, in the Greek manner, by Herod, in honor of Livia; and of the same latitude almost with Jerusalem; called also Julius by Josephus, who always calls the Livia of Augustus Lia.

BETHAVEN, in ancient geography, a town in the tribe of Ephraim, south-east of Bethel (Josh. vii. 2). It is also a name given to Bethel by Hosea, after the establishment of the idolatry of Jeroboam there; meaning it to have become the house of iniquity, from being the house of God.

BETHBARA, a place in the land of Galilee, where Gideon called the Ephraimites to stop the flying Midianites (Judg. vii. 24), supposed to be the same with Bethara.

BETHICAR, a city of the Danites, to which the Israelites under Samúel pursued the Philistines. 1 Sam. vii. 11.

BETH-DAGON, a city of Palestine, on the borders of the land of Israel.

BETHEL, a city of Samaria, on the borders of the tribe of Benjamin, anciently called Luz; but they seem to be distinguished (Joshua xvi. 2). They were, however, contiguous places. Bethel was properly the place of Jacob's vision, and Luz, or Lus, an adjoining town, afterwards called Bethel. It was twelve miles north-east of Jerusalem. Dr. Clarke remarks, that the nature of the soil is still an existing comment upon the record of the stony territory, where he took of the stones of the place, and put them for his pillow.

BETHER, or BITHER, a city of Palestine, which some place near Jerusalem, and others near Casarea and mount Carmel. About A. D. 130 it sustained a terrible siege, when the blood, which ran down the river, is said to have colored the waters of the sea to some distance.

BETHESDA, (called in the Greek, *κολυμβηθρα Προβατικη*, and thence in the Vulgate, *Piscina Probatica*, because, according to some, the sheep were washed in it, which were appointed for sacrifices,) was the Hebrew name for a pool or public bath, which had five porticoes, piazzas, or covered walks around it. It was called Bethesda, *בֵּית הַחֶמְדָּה*, Beth Chesda, or the House of Mercy, because, as Pool, in his Annotations, observes, the erecting of public baths was an act of great kindness to the common people, particularly a bath with the virtues of the description this possessed. From the Greek word *κολυμβηθρα* being used by Josephus (Antiq. xv. 3), to denote the baths of Jericho, Macknight, in his Harmony of the Gospels, concludes that their opinion is without proper foundation, who affirm, that this pool served for washing the sheep designed for sacrifice, before they were driven into the temple, and for washing the entrails of the beasts sacrificed there. Besides, he thinks it inconsistent with the situation of Bethesda, near the sheep-gate, or market, as our English translators have rendered the Greek *ἐπὶ τῇ προβατικῇ κολυμβηθρᾷ*, though some copies have it, *ἐν τῇ*, &c., in the south-east wall of the city. The nature of the cures performed here, as recorded John v. 2, 3, &c., has been much controverted. Some writers confine the miracle to the season of the particular feast mentioned in verse 1, as they understand *κατὰ καιρὸν*, by times, verse 4, which our translators render, a certain season, to mean at that season, since the evangelist does not say that the waters of Bethesda had their sanative quality at any other feast; and they instance the

silence of Philo and Josephus respecting this miracle as confirming their interpretation. Macknight observes, that the silence of these writers is worthy of little regard, as they have omitted greater transactions which they had an opportunity to know. It must here be observed, that the fourth verse of this chapter of St. John is not in Beza's Cambridge MS. nor in one or two more of some authorities. Griesbach has marked it as doubtful, yet he leaves it in the text. But though it should be rejected, the difficulty for which some would have it cancelled, remains: because the seventh verse implies, that cures were performed in this pool, and that only one at a time was cured; if so, it is as easy to conceive that an angel moved the water, and gave it its healing quality, as to fancy those cures were performed miraculously in any other way. Grotius, Lightfoot, and Doddridge, think that the angel is said to have descended, not because he was ever seen to do so, but because the Jews were persuaded that God brought such things to pass by the ministration of angels; so that from that violent motion of the water, and the cure following it, the presence of an angel was inferred. Dr. Hammond supposes, that the waters became medicinal by being impregnated with a healing warmth from the blood and entrails of the sacrificed beasts that were washed there. Whitby asks, how this healing virtue, if natural, could be applied to the cure of all diseases? how one only could be cured when many, probably, entered at the same moment? and why, since numerous victims were slain at other feasts, should the case occur only at the passover? Lightfoot, also, shows, that the entrails were washed in a laver in the temple, and not in this pool.

Doddridge believes the waters to have been partly mineral and medicinal, to have been used for general bathing, and to have been endowed with a miraculous power not long before the ministry of Christ. He, also, holds, that the virtue ceased either immediately after the miracle, or at the death of Christ; and that this accounts for the silence of Josephus. Maundrell, who visited the Holy Land in 1696, describes a Bethesda, which our modern travellers, Dr. Clarke and Dr. Richardson, do not mention. Maundrell says, it was 140 paces in length, forty in breadth and eight in depth; dry, and having at its western end three blind arches, which he supposes were remains of the five porches; but how did these survive the destruction of Jerusalem?

BETH-GAMUL, a city of the tribe of Reuben, which was taken by the Moabites, and afterwards pillaged by the Chaldeans.

BETH-HACCEREM, a city, seated on a hill, between Jerusalem and Tekoah, and noted for its vineyards,

BETH-HOGLAH, a city belonging to the Benjamites, about half way between Jericho and Jordan.

BETH-HORON, in ancient geography, two towns of Samaria; both in the tribe of Ephraim, built by SHERA, grand-daughter of Ephraim, 1 Chron. viii. 24, and both restored by Solomon, after falling to decay. 1 Kings ix. 17, and 2 Chron viii. 5, viz.

1. **BETH-HORON, NETHER**, was situated on a

mountain, and therefore Josephus and Jerome mention going up or ascending. It stood on the public road to Lydda and Cæsarea, distant 100 stadia, or twelve miles, from Jerusalem. On account of this vicinity, some allot it to the tribe of Benjamin.

2. **BETH-HORON, UPPER**, was distant almost the whole breadth of the land of Ephraim, from the Nether Beth-Heron, the Upper being in the north and the Nether in the south of that tribe. Josh. xvi.

BETHINK'. Be and think. See **THINK**. To recal to reflection: to bring back to consideration, or recollection. It is generally used with the reciprocal pronoun, and *of* before the subject of thought.

They were sooner in danger than they could almost *bethink* themselves of change. *Sidney.*

Cease then my tongue, and lend unto my mind,
Leave to *bethink* how great that beauty is
Whose utmost parts so beautifull I fynd. *Spenser.*

I, better *bethinking* myself, and misliking his determination, gave him this order. *Raleigh.*

He himself,
Insatiable of glory, had lost all:
Yet of another plea *bethought* him soon. *Milton.*
The nets were laid, yet the birds could never *bethink* themselves, till hampered and past recovery. *L'Estrange.*

Ah *bethink* how through thy regions
Midnight horror fearful howled,
When like wolves the Danish legions
Through thy trembling forests prowled.
Mickle. Ballad.

Borne in his arms from yon Serai
Say wert thou lingering there with him to fly?
Thou needest not answer—thy confession speaks,
Already reddening on thy guilty cheeks;
Then lovely dame *bethink* thee! and beware. *Byron. Corsair.*

BETH-JESIMOTH, a city of the Reubenites, about ten miles east of the Jordan. It was taken by the Moabites, and afterwards destroyed by the Chaldeans.

BETHLEHEM, בֵּית לֶחֶם i. e. the house of bread; called also Bethlehem Ephrath, a town of Palestine, in the tribe of Judah, the birth-place of David and of our Saviour. It was once much more flourishing than at present, and stands on an eminence, six miles south-east of Jerusalem, in a country full of hills and valleys.

Mr. Parsons visited it in 1821, and says, passing from Bethany through the beautiful plain, called the valley of Rephaim, 'Bethlehem, at this distance, assumes an appearance of splendor far beyond what it actually possesses. The monastery erected over the manger, stands a little east of the village. Still further eastward, we saw the valley where the shepherds heard the angels sing, at the birth of the Saviour.' Here is a convent, containing three religious houses devoted to the Greeks, Franks, and Armenians, and described as a massy, heavy-looking structure, more like a fortification. A grotto, said to contain the manger in which our Lord lay, has an altar, a fine picture, and numerous silver and crystal lamps; ten monks constituted the whole society here a few years since, most of whom were Spaniards. The population of Bethlehem is said by Mr. Parsons to

consist of about 1500 Catholics, 1000 Greeks, a few Armenians, and a few Turks. The inhabitants are chiefly employed in making wooden crucifixes and crowns, which are set in mother-of-pearl, and exported into different parts of Europe and Asia. But its chief ornament is the stately church, erected by the empress Helena, over the place where the Saviour was born, and bearing her name. It is built in the form of a cross, and the top of it commands a fine view of the surrounding country. The roof is of cedar, covered with lead, and supported by four rows of lofty pillars, ten in a row, and each formed of one entire piece of white marble. The walls were overlaid with the same beautiful stone, but it is said that the Turks have carried it away to adorn their mosques. The upper ends of the cross terminate in three semicircles, in each of which there is an altar. Over the chancel is a large cupola, of which the outside is covered with lead, and the inside adorned with beautiful mosaic workmanship. There are also shown the tomb of Rachael, the wells for the water of which David longed, the fountains of Solomon, the cave in which David cut off the skirt from the robe of Saul, &c. &c. Perhaps these traditional vestiges of our religion, whether in each particular true or false, have kept alive the remembrance of its leading events in ages, and amongst modern tribes, that have had no access to superior evidence. Dr. Clarke was particularly struck, throughout his travels in Judea, with the singular coincidence between its general present appearance and the descriptions of the Bible.

BETHLEHEM, a town in the land of Zebulon. Josh. xix. 5.

BETHLEHEM, a post and borough town of the United States, in Pennsylvania; pleasantly situated in Northampton county, on the north side of Lehigh river, over which is a large wooden bridge. It is partly built upon an eminence, and partly on the bank of Manakisy Creek, which runs into the Lehigh on the west side of the town. The town is laid out in regular streets, and built chiefly of limestone. The town contains a population of about 1500 individuals, who are all Moravians. Two schools here, one for boys, and another for girls, are in high repute. Besides the common dwelling-houses, it contains a large church, and extensive buildings, appropriated to the different classes of the society; as the unmarried men, the young women, and the widows. Various manufactures are carried on, and the strictest discipline is attended to. Dr. Franklin visited this settlement, soon after its establishment, and was much pleased with their peaceable manners, their social, disinterested habits, and their orderly worship. He enquired into their alleged use of the lot in marriage; and was told it was by no means general; but that the elders of the community, being generally consulted by the young persons of each sex, gave them that advice as to proper objects, which was generally followed. 'But if it occurred that two or more young women were thought equally proper for a young man,' he tells us, 'the lot was appealed to and the decision final.' When Franklin observed that such matches, not made by mutual choice, might end unhappily; 'so they

might,' said the Moravians, 'if the parties were to choose for themselves.' It is twelve miles south-west of Easton, and fifty-three north by west of Philadelphia. Long. 0° 14' W. lat. 40° 37' N.

BETHLEHEM, a town of the United States, with a post office, in Litchfield county, Connecticut, on the head of Southbury river, which runs into the Housatonic. It is about eight miles south of Litchfield, and 196 from Philadelphia.

BETHLEHEM-EPHRATAH. See **BETHLEHEM**.

BETHLEHEMITES, or **BETHLEMITES**, in church history, were monks introduced into England, A. D. 1257, habited like the Dominicans, except that, on their breast, they wore a star with five rays, in memory of the star or comet which appeared over Bethlehem at the nativity of our Saviour. They were celled at Cambridge, and had only one house in England. Also an order of religious in Peru, who came originally from Guatemala in Mexico, where they were instituted by the venerable Peter Joseph of Betanear, for the service of the poor. Innocent XI. in 1687, approved the institute.

BETHLEN, a walled market town of Transylvania in what is called the inner county of Szolnok. It stands on the river Tzamos, and has a castle.

BETH-PEOR, a town of the Reubenites, on the other side Jordan, at mount Fogor, over against Jericho, six miles above Livias. It had a temple sacred to the idol Baal-Peor, Numb. xxv. 5, called Bel-Phegor by the Vulgate, and interpreted Priapus by Jerome.

BETHPHAGE, a place at the west declivity of mount Olivet, Matt. xxi. 1, from which it is supposed that the whole of that declivity, with a part of the valley, and the extreme skirts of the city, went under the common name of Bethphage.

BETHRAL'. From thrall. To enslave; to conquer; to bring into subjection. See **THRALL**.

Ne let that wicked woman 'scape away,

For she it is that did my lord *bethral*.

Shakespeare.

BETHSAIDA, the house of hunting or fishing, a town near the desert of the same name in Galilee, on the western shore of the lake Gennesareth. It was the city in which St. Andrew and St. Peter followed their fishing trade; as also the native place of St. Philip. The unbelief of its inhabitants drew down from our Saviour a bitter denunciation. Matt. xi. 21.

BETHSAN, **BETHSIAN**, or **BETHSHEAN**, a town of Samaria, in the half tribe of Manasseh, on the borders of Galilee, about half a league from the Jordan, having half of its territory in the Peræa. It was afterwards called Scythopolis; and was distant from Tiberias, on the lake Gennesareth, 120 stadia, or fifteen miles to the south; and from Jerusalem to the north 600 stadia, or seventy-five miles. Josephus says, it was the greatest city of all the Decapolis. It is called Baeson by Stephanus.

BETH-SHEMESI, a city of Judah, which belonged to the priests: memorable for the return of the ark to it, by the Philistines, as well as for the severe punishment of the inhabitants

for their profanity in looking into it. 1 Sam. vi. 12—19. The circumstance of 75,000 being here stated to be slain in one village has been thought incredible. But the present Heb. text supports our common rendering. Dr. Kennicott, however, instances three reputable MSS. in which the words *אלף איש חמשים*, fifty thousand men, are wanting; and Josephus omits all mention of the 50,000. The supposed omission of a single letter *כ* *ke*, like, or equal to, in the common reading, would render this circumstance less extraordinary, i. e. is reading *כחמשים* (*kechamashim*) for *חמשים* (*chamashim*). The passage would then read, 'He smote of the people seventy men, equal to (or rulers of) 50,000 men': that is they were governors or chiefs of the people. This was also the name of 2. A town of Egypt, supposed to be the same with Aven, or On. 3. A town of Israel, on the frontiers of the tribe of Issachar. 4. A town of Palestine, belonging to the tribe of Naphthali, from which the Canaanites were not expelled.

BETH-SHITTAI, a district of Palestine, to which the Midianites fled when they were routed by Gideon. It belonged to the Manassites; and is supposed to have been situated south-west of the sea of Tiberias.

BETH-TAPPUAH, a city on the south-west border of Canaan; said to have been situated fourteen miles beyond Raphia, not far from the Nile.

BETHUEL, the son of Nahor, cousin of Abraham, and father of Laban and Rebekah.

BETHUEL, or BETHUL, a city of the Simeonites, the scene of the apocryphal story of Judith and Holophernes.

BETHUMP'. From thump. To beat; to lay blows upon; a ludicrous word.

I was never so *bethumpt* with words,
Since first I called my brother's father dad.

Shakspeare.

BETHUNE, a town of France, in the department of the Pas de Calais (the *ci-devant* Artois), containing 7000 inhabitants. It is the capital of an *arrondissement* of eighteen cantons.; is surrounded with walls, and has been well fortified. The city and the castle taken together are of a triangular figure, but the former is a very irregular building. The houses are indifferent, and the streets ill-paved; but there is a large handsome market-place, and several churches. Here is made excellent cheese, in which, as in corn and flax, a tolerable trade is carried on; there are, besides, manufactures of linen, and vines are partially cultivated in the surrounding country. In 1710 it sustained a siege of six weeks, and was taken by the allied army under the duke of Marlborough, but was restored to France at the peace of Utrecht. It is seated on a rock near the river Brette, and is traversed by the Lave, which falls into the Lys. Twenty miles north-west of Arras, and 134 north of Paris.

BETHUNE (Maximilian de), duke of Sully. See SULLY.

BETHZUR, in ancient geography, a city on the south of Judah, and borders of Edom, near Hebron. It was fortified by Rehoboam, and was very strong during the Machabean war.

Lysias, the Syro-Grecian general, besieged it with an army of 65,000 men; but Judas Maccabæus forced him to raise the siege. The Syrians, however, took it the following year, and kept it till Jonathan retook it.

BETIDE'. Be and tide, *pret.* It betided, or betid; *part. pass.* betid. From Sax. *etw*. See TIDE. To happen to; to befall; to bechance, whether good or bad; to come to pass; to be the fate.

— of true frendes there be too fewe

But sothfast frendes, what so *betide*,

In every fortune wollen abide. *Chaucer.*

And leaveing there this ladie all dismayed,

Went forth streightway, into the forest wyde,

To seek if he perchance asleep were layed,

Or whatso else were unto him *betide*:

He sought him farre and neare, yet him no where
he spyde. *Spenser.*

She, when her turn was come her tale to tell,

Told of a strange adventure that *betided*,

Betwixt the fox and the' ape by him misguided. *Id.*

In winter's tedious nights, sit by the fire

With good old folks, and let them tell thee tales

Of woeful ages long ago *betid*. *Shakspeare.*

If he were dead what would *betide* of thee? *Id.*

But say, if our deliverer up to heaven

Must reascend, what will *betide* the few,

His faithful, left among the' unfaithful herd,

The enemies of truth. *Milton.*

What should then *betide*

But that our charity be not too nice?

Come, let us those we can to real bliss entice.

Thomson.

Through many a clime 'tis mine to go,

With many a retrospection curst;

And all my solace is to know

What'er *betides* I've known the worst. *Byron.*

BETIME', } Ang.-Sax. *tima*, by time; good

BETIMES'. } time; early time. See TIME.

Seasonably; before it is late; soon; before long

time has passed; early in the day.

Whiles they are weak, *betimes* with them contend;

For when they once to perfect strength do grow,

Strong wars they make. *Spenser.*

There be some have an over early ripeness in their
years, which fadeth *betimes*: these are first such as
have brittle wits, the edge whereof is soon turned.

Bacon.

He tires *betimes*, that spurs too fast *betimes*.

Shakspeare.

He that drinks all night, and is hanged *betimes* in
the morning, may sleep the sounder next day. *Id.*

To measure life learn thou *betimes*, and know

Toward solid good what leads the nearest way.

Milton.

Remember thy Creator in the days of thy youth;
that is, enter upon a religious course *betimes*. *Tillotson.*

Short is the date, alas! of modern rhymes;

And 'tis but just to let them live *betimes*. *Pope.*

BETIS, governor of Gaza, under Darius, was famous for his valor and loyalty. He defended a place of consequence with a few men against Alexander, who was there shot through the shoulder. Betis thinking him slain, returned triumphantly to the city; but in a second assault, he was wounded and brought to Alexander, who basely ordered him to be put to death.

BETLEY, a market town of Staffordshire, seated on the confines of that county, next to Cheshire, in a sandy but not unfruitful soil. It

is about eight miles from Newcastle-under-Line, sixteen N. N.W. of Stafford, and 157 from London. It supplies Newcastle with almost all its vegetables; and there is a large cattle fair held here in July.

BETLIS, a strong town of Armenia or Turcomania, belonging to a kind of independent bey or prince. It lies on the road from Tauris to Aleppo, and the passage between the mountains is so narrow, that ten men can defend it against 1000. There is a castle on an eminence exactly in the middle. This eminence is so steep on all sides, that it is impossible to get up but circuitously. The people in and about the town are shepherds, but are ready to take up arms at the command of their prince. It is 150 miles east of Diarbek. Betlis is an ancient city, founded, according to the Armenians, by Alexander the Great. The Persians obtained a signal victory over the army of Soliman here in 1534. The population of the town and neighbouring villages is computed at 26,000 Kurds, Turks, Armenians, and Syrians. The country around, denominated Kurdistan, is a fine and highly cultivated valley, producing fruit, grain, and honey. The Armenians have four churches here, and as many monasteries, and enjoy great liberty. Long. 42° 50' E., lat. 37° 30' N.

BETO'KEN, } Be and token. See **TOKEN**.

BETO'KENING. } To signify; to mark; to represent; to foreshow; to presignify.

We know not wherefore churches should be the worse, if, at this time, when they are delivered into God's own possession, ceremonies fit to *betoken* such interest, and to accompany such actions, be usual.

Hooker.

A dewy cloud, and in the cloud a bow,
Conspicuous, with three listed colours gay,
Betokening peace from God. Milton.

The kindling azure, and the mountain's brow,
Illumed with fluid gold, his near approach
Betoken glad. Thomson.

This, I say, being a current opinion, the wise men would be apt enough to conclude, that the present star *betokened* the birth of that Prince of whom (as they might easily have heard) it had been so very long foretold,—‘There shall come a star out of Jacob, and a sceptre shall rise out of Israel.’ Porteus.

If bursting heart, and maddening brain—
And daring deed, and vengeful steel—
And all that I have felt—and feel—
Betoken love—that love was mine;—
And shewn by many a bitter sign. Byron's *Giaour*.

BETONICA, **BETONY**, in botany, a genus of the gymnospermia order, and didynamia class of plants; ranking in the natural method under the forty-second order, verticillate. CAL. awned; the upper lip of the cor. ascending and flattish; and the tube cylindric. There are five principal species, viz. 1. *B. Alpina*, the least Alpine betony. 2. *B. Danica*, the greater Danish betony. 3. *B. Incana*, the hoary Italian betony, has a flesh-colored flower. 4. *B. officinalis*, is the species chiefly worth notice. It is a low plant growing in woods and shady places in several parts both of England and Scotland. 5. *B. orientalis*, the eastern betony, has very long narrow leaves, and a thick spike of flowers.

BETONICA AQUATICA. See **SCROPHULARIA**.

BETONICA PAULI. See **VERONICA**.

VOL. IV.

BETORN'. The past participle of the verb to tear; to pull or rend asunder.

BETOSS'. Be and toss. See **Toss**. To throw; to heave; to agitate; to put into violent motion.

What said my man, when my *betossed* soul
Did not attend him as we rode? Shakespeare.

BETRAY', } Junius derives this word
BETRAY'ER, } from the French *trahir*; Latin
BETRAY'ING. } *tradere*. To give into the hands of enemies by treachery, or breach of trust: with to before the person, otherwise *into*. To discover that which has been entrusted to secrecy; to expose to evil by revealing something entrusted; to make known something that were better concealed; to make liable to fall into something inconvenient; to show; to discover; to delude; and deceive.

If ye be come to *betray* me to mine enemies, seeing there is no wrong in my hands, the God of our fathers look thereon, and rebuke it. 1 Chronicles.

Jesus said unto them, The Son of man shall be *betrayed* into the hands of men. Matthew.

The wise man doth say of fear, that it is a *betray*er of the forces of reasonable understanding. Hooker.

But when of him no answer she received,
But saw him senseless by the squire up-staide,
She weened well that then she was *betraide*. Spenser.

His abilities [created him great confidence; and this was like enough to *betray* him to great errors. King Charles.

How, would'st thou again *betray* me,
Bearing my words and doings to the Lord! Milton.

Ire, envy, and despair,
Which marred his borrowed visage, and *betrayed*
Him counterfeit, if any eye beheld. Id.

'Tis in return James does our fleet *betray*
(That fleet whose thunder made the world obey.) Marvell.

There are only a few *betrayers* of their country; they are to purchase coin, perhaps at half price, and vend it among us, to the ruin of the publick. Swift.

For it is the opinion of goodness which creates easiness of trust: and by trust we are *betrayed* to power. Shaftesbury.

He was not to be won, either by promise or reward, to *betray* the city. Knolles.

The bright genius is ready to be so forward, as often *betrays* itself into great errors in judgement. Watts.

To stifle passion, is no easy thing;
A heart in love is always on the wing;
The bold *betray*er flutters still,
And fans the breath prepar'd to tell. Parnell.

Ah, why this ruin so attractive made,
Or why, fond man, so easily *betrayed*?
Why heed we not, while mad we haste along,
The gentle voice of peace, or pleasure's song. Collins' *Elegues*.

Escaped from shot—unharm'd by steel,
Or scarcely grazed its force to feel—
Had Selim won—*betrayed*—beset—
To where the strand and billows met. Byron.

BETRIM', *v. a.*, from trim. See **TRIM**. To deck; to dress; to grace; to adorn; to embellish; to beautify; to decorate.

Thy banks with pioned and twilled brims,
Which spongy April at thy hest *betrim*s,
To make cold nymphs chaste crowns. Shakespeare.

G

BETROTH'. } Be and troth, i. e. truth;
BETROTH'MENT. } Goth. *trawan*; Ang.-Sax. *tre-*
owan; Germ. *trawen, betrawen*; to trow; to
 affiance; to pledge the truth; to promise or
 vow; to keep the truth; or to be true and faith-
 ful; to pledge or bind to the true and faithful
 performance of; particularly applied to the pro-
 mise to enter into the marriage contract.

Ency. Met.

And what man is there that hath *betrothed* a wife,
 and hath not taken her? let him go and return into
 his house.

Deuteronomy.

There might I see how Ver had every blossom hent,
 And eke the new *betrothed* birds, y-coupled how they
 went.

Earl of Surrey.

He, in the first flower of my freshest age,

Betrothed me unto the only heir

Of a most mighty king, most rich and sage. *Spenser.*

You have been contracted to a maid;

Nor are you therein, by my life, deceived;

You are *betrothed* both to a maid and man. *Shakspeare.*

To her, my lord,

Was I *betrothed*, ere I *Hermia* saw.

Id.

By soul's public promise she

Was sold then, and *betrothed* to Victory. *Cowley.*

If any person be consecrated a bishop to that
 church, whereunto he was not before *betrothed*, he
 shall not receive the habit of consecration, as not
 being canonically promoted.

Ayliffe.

BETROTHMENT is either solemn, made in
 the face of the church, or private, before wit-
 nesses out of the church. To betroth by giving
 arrhæ, or earnest, is called by middle age writers
subarrare. In Russia the betrothing is always
 performed in the church, and is indissoluble;
 formerly it was eight days previous to the mar-
 riage. During this interval, the bride was only
 visited by the bridegroom, and the girls of her
 acquaintance, who amused her with singing. On
 the last evening the young women brought the
 bride into the hot bath, and plaited and tied up
 her hair, singing at the same time ballads
 descriptive of her future happiness. 'Now,' says
 Mr. Pinkerton, 'it is one of the three offices of
 marriage, and is accompanied with the exchange
 of rings. Then follows the matrimonial cor-
 onation, which is properly the marriage rite; and
 thirdly, the dissolving of the crowns. See MAR-
 RIAGE. Among the ancient Jews, the betrothing
 was performed, either by a writing, or by a piece
 of silver given to the bride, or by cohabitation
 and consummation. This latter engagement,
 according to the Rabbins, was allowed by the
 law (Deut. xxiv. 1.), but was afterwards forbid-
 den by the ancients, on account of the abuses
 that might happen, and for preventing clandes-
 tine marriages. After the marriage was con-
 tracted, the young people had the liberty of
 seeing each other. If during this time the bride
 should trespass against that fidelity she owed to
 her bridegroom, she was treated as an adulteress.
 (Seld. Uxor. Heb. l. ii. c. 1., and Matt. i. 19).
 The nuns of the Annuciada hold an annual
 feast in honor of the desponsation, or betroth-
 ment of the Virgin Mary to Joseph. Buxtorf
 Synag. Judaic. cxxxix. preserves the form of a
 written betrothment still in use among the Jews.
 Dr. A. Clarke says, 'This custom has been im-
 memorably observed among the inhabitants of
 Ireland, who have not only this but many other

Asiatic customs, which added to various authen-
 tic historic proofs, are collateral evidence that
 they received the Christian religion, not from the
 popes of Rome, but through the means of Asiatic
 missionaries.' But this argument is not conclu-
 sive; our Anglo-Saxon ancestors had the same
 custom. See Mr. Turner's able History, vol. ii.
 p. 83.

BETRUST'. Be and trust. See TRUST. To
 entrust; to put into the power of another, in
 confidence of fidelity.

Betrust him with all the good which our own ca-
 pacity will allow us, or his sufficiency encourage us,
 to hope for, either in this life, or that to come. *Grew.*

Whatsoever you would *betrust* to your memory, let
 it be disposed in a proper method. *Watts.*

BETSEY'S ISLE, or ISLE WILLAUMEZ, a
 small, high, and fertile island on the east coast
 of Van Diemen's Land, lying at the entrance
 of Derwent river.

BETTER, *v. n. adj. & adv.* The adjective is
 used as the irregular comparative of good, from
 Ang.-Sax. *beteran* and *betrian*, from *betan*, to
 beat; to correct; amend; improve: hence it
 has grown to mean superiority; advantage;
 having good qualities in a greater degree than
 something else; to surpass; to exceed; to ad-
 vance; to support; a higher rank.

Then it was *better* with me than now. *Hosca.*

Having a desire to depart and be with Christ;
 which is far *better*. *Philippians.*

A *better* preest, I trowe, that no wher none is,

He waited after no pompe ne reverence,

Ne maked him no spiced conscience:

But Cristes lore, and his apostles twelve,

He taught—but first he folwed it himselfe.

Chaucer. Cant. Tales. Prologue.

The Corinthians that morning, as the days before,
 had the *better*. *Sidney.*

He hath borne himself beyond the promise of his
 age; he hath, indeed, *better* *bettered* expectation,
 than you must expect of me to tell you. *Shakspeare.*

What you do

Still *bettors* what is done; when you speak sweet,

I'd have you do it ever. *Id.*

He has a horse *better* than the Neapolitan's; a
better bad habit of frowning than the count Palatine.

Id. Merchant of Venice.

Their *bettors* would be hardly found, if they did
 not live among men, but in a wilderness by them-
 selves. *Hooker.*

The cause of his taking upon him our nature, was
 to *better* the quality, and to advance the condition
 thereof. *Id.*

The voyage of Drake and Hawkins was unfortu-
 nate; yet, in such sort, as does not break our pre-
 scription, to have had the *better* of the Spaniards.

Bacon.

You think fit

To get the *better* of me, and you shall;
 Since you will have it so—I will be yours. *Southern.*

A fairer person lost not heaven; he seemed
 For dignity composed and high exploit:

But all was false and hollow; though his tongue

Dropt manna, and could make the worse appear

The *better* reason, to perplex and dash

Maturest counsel. *Milton.*

But Jonathan, to whom both hearts were known,
 With well-timed zeal, and with an artful care,
 Restored and *bettered* soon the nice affair. *Cowley.*

Here, you shall see a noble title worn,
(That had not mis-besecmed one *better* borne)
By him, whose virtues are of little price,
And whose estate, was gotten by his vice.

Geo. Wither.

That ye thus hospitably live,
Is mighty grateful to your *bettors*,
And makes e'en gods themselves your debtors.

Prior.

The Romans took pains to hew out a passage for
these larks to discharge themselves, for the *bettering*
of the air.

Addison.

He that would know the idea of infinity, cannot do
better, than by considering to what infinity is attributed.

Locke.

Better for us, perhaps it might appear,
Were there all harmony, all virtue, here.

Pope.

When vice o'er all mankind prevails,
And weighty interest turns the scales,
Must I be *better* than the rest,
And harbour Justice in my breast?
On one side only take the fee,
Content with poverty and thee?

Moore.

He asked no question—all were answered new
By the first glance on that still—marble brow!
It was enough—she died—what recked it how?
The love of youth, the hope of *better* years,
The source of softest joy and tenderest fears,
The only living thing he could not hate,
Was reft at once—and he deserved his fate.

Byron.

BETTERTON (Thomas), a celebrated actor in the reign of Charles II. was born in Westminster in 1633, and excelled in Shakspeare's characters of Hamlet, Othello, Brutus, and Hotspur. In 1695 he opened a new playhouse in Lincoln's-inn-fields, but the scheme did not succeed. He died in 1710, and was buried in Westminster Abbey. He wrote *The Woman made a Justice*, a comedy; the *Unjust Judge*, or *Appius and Virginia*, a tragedy, written originally by Mr. John Webster, and altered by Betterton; *The Amorous Widow*, or *the Wanton Wife*; *Dioclesian*, a dramatic opera, &c.

BETTIAH, a district of the province of Bahar, Hindostan, situated between the twenty-seventh and twenty-eighth degrees of north latitude. On the west it is bounded by the river Gunduck, and on the east by Tyrhoot. It retained its independence till the year 1765, when it was subdued and annexed to Champaran by the British government. In the fifteenth century the Hindoo prince of this country was of so much consequence, that the Afghan emperor Sekunder demanded his daughter in marriage. In cultivation and manufactures it is at present inferior to other parts of Bahar, but its woods yield abundance of fine ship-building timber.

BETTIAN, the capital of the above district, and formerly a strong fortress, was taken and destroyed by the Afghans in 1498, and is now a middling-sized town. It is situated in lat. 26° 47' N., long. 84° 40' E.

BETTINELLI (Saverio or Xavier), in biography, a distinguished poet of Mantua, was born in 1718, and died in 1808. He published a new edition of his works in twenty-four volumes, 12mo. Venice, 1799-1801, which contain, 1. *Ragionamento filosofico, con Annotazioni.* 2. *Dell'Entusiasmo delle Belle Arti.* 2 volumes. 3. *Dialoghi d'Amore*, two volumes. 4. *Risorgi-*

mento negli Studj, nelle Arti e nel Costume dopo il Mille, three volumes. 5. *Delle Lettere e delle Arti Mantovane; Lettere ed Arti Modenesi*, one volume. 6. *Lettere dieci di Virgilio agli Arcadi*, one volume. 7. *Italian Letters from a Lady to her Friend on the Fine Arts, and Letters from a Friend, copied from the Originals*, three volumes. 8. *Poetry*, three volumes. 9. *Tragedies*, two volumes. 10. *Lettere a Lesbia Cidonia sopra gli Epigrammi*, two volumes. 11. *An Essay on Eloquence.* He was a Jesuit, and one of the most celebrated of that order: in 1751 was entrusted to him the superintendence of the college of nobles at Parma, where he remained eight years. In 1755 he travelled in Germany, Italy, and France, with the sons of the prince of Hohenlohe. Voltaire, whom he visited, wrote the following in an edition of his own works, which he sent to Bettinelli's inn:—

Compatriote de Virgile,
Et son secretaire aujourd'hui,
C'est a vous d'ecrire sous lui;
Vous avez son ame et son style.

'Fellow-countryman of Virgil, and at present his secretary, it is for you to write in his name: you possess his soul and his style.' After settling at Verona for some time, he returned to his own country.

BETTOOR, a flourishing town on the banks of the Ganges, containing several handsome Hindoo temples. Long. 80° 5' E., lat. 26° 52' N.

BETTOORIAH, a district of Bengal, 100 miles long by about twenty broad, on the north-east bank of the Ganges; now included in the collectorship of Rajshy. The Ganges is said to have formerly run through this district, which is still much intersected by small rivers, and subject to inundations. It is consequently well adapted for the cultivation of rice, and produces immense quantities. It lies principally between the twenty-fourth and twenty-fifth degrees of north latitude.

BETTS (John), M. D. physician in ordinary to Charles II. was educated at Oxford; when he died is uncertain. He wrote, 1. *Of the Origin and Nature of the Blood*; and, 2. *The Anatomy of Thomas Parr*, who died in the 152d year and ninth month of his age; with the Observations of the celebrated Dr. William Harvey, and others of the king's physicians, who were present.

BETULA, in botany, the birch-tree: a genus of the tetrandria order, and monœcia class of plants; ranking in the natural method under the fiftieth order, amentaceæ. CAL. of the male monophyllous, trifid, and triflorous: cor. parted into four segments; the female calyx is monophyllous, trifid, and biflorous; the seeds have a membranaceous wing on both sides. There are six species, viz. 1. *B. alba*, the common birch-tree, is so well known as to need no description. It is generally of a humble growth, but in a proper soil and situation will grow to a great height, and considerable size. 2. *B. alnus*, the alder-tree, will grow to large timber. Wherever the soil is or can be made pasturable, the alder should by no means be permitted to gain a footing. Its sakers and seedlings poison the herb-

age; and it is a fact well known to the observant husbandman, that the roots of the alder have a peculiar property, of rendering the soil they grow in moist and rotten. Of the native species, Ilanbury enumerates five, viz. 1. The long-leaved. 2. The white. 3. The black. 4. The hoary-leaved, and 5. The dwarf-alder.—3. *B. lenta*, the Canada birch, grows to sixty or more feet in height. The leaves are heart-shaped, oblong, smooth, of a thin consistence, pointed, and very sharply serrated. They differ in color; and the varieties of this species go by the names of 1. Dusky Canada birch; 2. White paper-birch; 3. Poplar-leaved Canada birch; 4. Low-growing Canada Birch, &c.—4. *B. nana*, the dwarf birch, with roundish leaves, grows naturally in the northern parts of Scotland, and Europe generally, and on the Alps. It seldom rises above two or three feet high. It has slender branches garnished with round leaves, but seldom produces flowers here. The catkins and seeds are the principal food of grouse, ptarmigans, &c. The Laplander turns this humble shrub to account, for fuel, and driving away the gnats; when covered with the rein deer's skin, it serves him for a bed. 5. *B. nigra*, the black Virginia birch-tree, will grow to upwards of sixty feet in height. The branches are spotted, and more sparingly set in the trees than the common sorts. There are several varieties of this species, differing in the color, size of the leaves, and shoots; such as, 1. the broad-leaved Virginian birch; 2. the poplar-leaved birch; 3. the paper birch; 4. the brown birch.—6. *B. pumila*, American, or hairy dwarf birch. Linn. Syst. 849. Reich. iv. 127. *B. nana*. Kalm. ii. 263. Leaves obovate, crenate; resembling the *nana*; a native of North America, and introduced into Kew garden in 1762, by Mr. James Gordon. The alba is easily propagated: it may be raised either from seeds or layering; and it will flourish in almost any soil and situation. The method of propagating the foreign sorts of birch is, 1. from seeds sown in beds of fine mould, covering them over about a quarter of an inch deep. During the time they are in the seminary, they must be constantly weeded, watered in dry weather, and, when about one or two years old, according to their strength, they should be planted in the nursery in rows. Weeding must always be observed in summer, and digging between the rows in winter; and when the plants are about three or four feet high, they will be of a good size to be planted out for the shrubbery quarters. A part may be then taken up for such purposes; whilst the remainder may be left for standards, to answer other purposes; 2. these trees may also be propagated by layers; and this is the way to continue the peculiarities in the varieties. A sufficient number of plants should be procured, and set upon a spot of double dug ground, three yards distant from each other. The year following, if they have made no young shoots, they should be headed to within half a foot of the ground, to form the stools, which will then shoot vigorously the summer following; and in autumn the young shoots should be plashed near the stools, and the tender twigs layered near their

ends: they will then strike root, and become good plants by the autumn following; whilst fresh twigs will have sprung up from the stools, to be ready for the same operation. The layers, therefore, should be taken up, and the operation performed afresh. If the plants designed for stools have made good shoots the first year, they need not be headed down, but plashed near the ground, and all the young twigs layered. Thus may an immediate crop be raised, whilst young shoots will spring out in great plenty below the plashed part, for layering the succeeding year. This work may be repeated every autumn or winter; when some of the strongest layers may be planted out, if wanted; whilst the others may be removed into the nursery, to grow stronger before they are removed; 3. cuttings also, if set in a moist shady border in the beginning of October, will frequently grow: but as this is not a sure method, and as these trees are so easily propagated by layers, it hardly deserves to be put in practice. The alder, like the other aquatic natives, may be raised either from suckers, from cuttings, or by layering; and no doubt from seed, though this mode of propagation is seldom practised in this country.

The bark of the birch seems in a manner incorruptible. In Sweden the houses are often covered with it. It frequently happens that the wood is entirely rotten, when the bark is perfectly sound. In Kamtschatka it is used for making drinking cups. It abounds with a resinous matter, to which its durability is owing: in consequence, it is highly inflammable; and in the northern countries torches are made of this bark sliced and twisted together. The bark itself consists of two different substances; a thick brittle brownish red one; and several very thin smooth white transparent membranes, in which the inflammable property resides. The thick part is less resinous, and has a roughish taste. It has been thought to possess some medicinal virtues, but concerning these, experience has as yet determined nothing certain. Upon deeply wounding or boring the trunk of the tree, in the beginning of spring, a sweetish juice issues, sometimes in so large a quantity as to equal the weight of the whole tree and root; one branch will bleed a gallon or more in a day. Horses, cows, goats, and sheep, eat the leaves of all the species of *betula*; but swine refuse them. When eaten by cows, they are said greatly to increase the quantity of the milk. With the addition of sugar, and properly fermented, its juice makes a pleasant wine. Mr. Loudon says, 'birch wine has been made from an open grove of about 100 birch trees, near Overton Hall, for sixty or seventy years past. Thirty trees or more are tapped in a season, about six or eight inches above the ground, in March. A piece of bark about three quarters of an inch in diameter, is cut out with a gouge, and the wood penetrated an inch or more; an iron spout is then driven into the bark below the hole, which conducts the sap to a bottle. In warm weather the holes soon grow up, and will cease to run in four or five days; but in windy weather they will run for a month. Some trees will run twenty-four gallons in twenty-four hours, others not half a pint. The

water is sold at sixpence a gallon to those who take small wine as a substitute for small beer. If the water is scalded (not boiled) it may be kept a month before it is made into wine; if not, it will not keep above a day or two. For making the wine, two pounds of coarse sugar, and a quarter of a pound of Malaga raisins, are added to every gallon of birch water, when cold: it is then boiled about an hour, until it is observed to grow clearer, when it is set to cool, and when about at the same heat that beer is set to work, a toast of bread spread with yeast is put into it, and for four days suffered to work freely, when it is barrelled, and the same quantity of raisins as before, and about an ounce of isinglass to every twenty gallons, are added: it seldom works out of the barrel, and in two or three weeks is ready for close bunging down, to remain for three months, when it should be bottled off, and in two or three weeks after it is fit for drinking, but is the better for keeping longer.

BETULÆ, in entomology, a species of curculio, of a golden green color in one sex, and blue in the other, with a spine on each side of the anterior part of the thorax; a native of Europe.—Also a species of cryptocephalus; color black; thorax orbicular and hairy; wing-cases brown, with obscure streaks: a native of Prussia. Also a species of attelabus, the curculio exco-riato-niger of Degeer; color black, with legs formed for leaping.—Also a species of cimex found on the white alder in the north of Europe. The head is muricated; thorax denticulated; anterior part of the wing-cases dilated.—Also a species of papilio, with brown wings, yellowish beneath; with two white streaks on the posterior ones: the larva is green, with pale oblique lines, and white on the sides; pupa glossy and ferruginous. The male is distinguished by a fulvous spot on the upper wings.—Also a species of tenthredo, tenthredo ferruginea of Degeer, body red; thorax, vent, and eyes black; wings brown behind: inhabits Europe.—Also a species of coccus, found on the white alder. It is round, and of a bay color.

BETULEIUS (Sixtus), an able grammarian, Latin poet, and philosopher, was born at Memmingen, in 1500; his true name was Birck. He taught the belles lettres and philosophy with reputation; and became principal of the college of Augsberg, where he died, June 16th, 1554. He wrote, 1. Notes on Lactantius, printed with the works of that father, fol. Bas. 1563; 2. Commentaries on Cicero de Natura Deorum, 8vo. Bas. 1550; 3. Three Dramatic Pieces inserted in the *Dramata Sacra*, 2 vols. 8vo. Bas. 1547; 4. *Novi Testamenti Concordia Græca*, Bas. 1546; 5. *Oracula Sybillina Gr. cum Castigationibus*, 8vo. Bas. 1545.

BETUWE, **BETUE**, or **BETAW**, a fertile island of Guelderland, forty miles long and ten broad, formed by the bifurcation of the Rhine above Nimeguen, and by the union of its streams near Worcum. It is the ancient Batavia, and formerly gave the name Batavians to the inhabitants of the Dutch Netherlands.

BETWEEN, } The Anglo-Saxon impera-
BETWIXT. } tive be, and twegen or twain.
—*Enc. Met.* Betwixt is the imperative be, and

the Gothic *tuos*, or two.—*Tooke*. Between was formerly written *twene*, *atweene*, *bytwene*. These words are variously used, but always implying their primary sense. In the intermediate space which divides. From one to another; noting intercourse, belonging to two; bearing a relation to two; difference; a distinction of one from another. *Between* is properly used of two; and *among* of more; but perhaps this accuracy is not always observed.

The cercles of his eyen in his hed
They gloweden *betwixen* yelve and red;
And like a griffon looked he about;
With kemped heres on his browes stout.

Chaucer. Canterbury Tales.

Welcome, my sweet; alas! the stay of my welfare;
Thy presence bringeth forth a truce *betwixt* me and
my care.

Earl of Surrey.

Five years since there was some speech of mar-
riage

Betwixt myself and her.

Shakspeare.

He should think himself unhappy if things should go so *between* them, as he should not be able to acquit himself of ingratitude towards them both.

Bacon.

If there be any discord or suits *between* them and any of the family, they are compounded and appeased.

Id.

Nor would I, for the world, my heart should bee
Inthrall'd by one that might not marry me;
Or such like passions bee perplexed in,
As hang *betwixt* a virtue and a siune.
Or such as whether way soe're I went,
Occasioned guilt or shame or discontent;
For, howsoe're wee manage such like things,
Wee handle winding vipers that have stings.

Geo. Wither.

Friendship requires that it be *between* two at least; and there can be no friendship where there are not two friends.

South.

Their natural constitutions put so wide a difference *between* some men, that art would never master.

Locke.

BEVECUM, a town in Brabant, in the kingdom of the Netherlands; memorable for being the place where the Duke of Marlborough encamped, after forcing the French lines, in 1705; and where he rested after the victory of Ramillies, in 1706. It lies seven miles south of Louvain.

BEVEL, *n.* & *v.* In masonry and joinery, a kind of square, one leg of which is frequently crooked, according to the sweep of an arch or vault. It is movable on a point or centre, and so may be set to any angle. An angle that is not square is called a *bevel* angle, whether it be more obtuse or more acute than a right angle. To *bevel* is to cut to a *bevel* angle. From Germ. *bugel*, diminutive of *bug*, from *bugen*, to bow.

The **BEVEL**, of carpenters, is made with a movable tongue, to strike angles. It differs from the square and the mitre in being movable, whereas they are fixed; the first at 90°, the second at 45°. Hence a bevel angle is any angle not a right angle.

BEVEL, in heraldry, is a chief broken or opening like a carpenter's rule.

^ **BEVELAND**, North and South, two islands of the Netherlands, in the province of Zealand, formed by two branches of the Scheldt. The former, on the east side of the island of Walche-

ren, is about six miles long and four broad, and is formed by what the Dutch call the Easter Scheldt. It was destroyed by a dreadful inundation in 1532, so that nothing but the tops of the church steeple and the highest buildings could be seen; but the ground being raised by the alluvial depositions, it was afterwards drained and brought into cultivation. South Beveland is separated from North Beveland by the island of Wolfersdyke, and is about twenty-four miles in length, and from five to eight miles in breadth. It is said to be one of the most agreeable of those belonging to Zealand, and contains the town of Goes, with some villages and forts; and has a trade in corn. Both these islands were occupied by the British, in 1809, during the expedition to Walcheren.

BEVELLING, in ship-building, the art of hewing a timber with a proper and regular curve, according to a mould which is laid on one side of its surface. See SHIP-BUILDING.

BEVER, v. & n. } From the Lat. *libere*, to
BEV'ERAGE. } drink. The afternoon and evening potations at colleges were called bevers; beverage is applied to any wholesome or pleasant liquid that is used for drink.

I am his cupbearer;
If from me he have wholesome *beverage*,
Account me not your servant. *Shakspeare.*

Grains, pulses, and all sorts of fruits, either bread or *beverage* may be made almost of all.

Brown's Vulgar Errors.
A pleasant *beverage* he prepared before
Of wine and honey mixed. *Dryden.*

Thine Pomona's choicest gift,
The tasteful apple rich with rosy juice:
Theme of thy envied song, Silurian bard,
According to the swains, in sparkling cups,
Delicious *beverage*. *Dodsley.*

BEVERCHES, in old records, customary services done by tenants to their lords, under the feudal system.

BEVERIDGE (William), a learned English prelate in the beginning of the eighteenth century, was born in 1638, and educated in St. John's college, Cambridge; where he distinguished himself so early by his knowledge of the oriental languages, that he published in his twentieth year a Latin treatise on the Excellency and Use of Oriental Languages, in which he reviews the several merits of the Hebrew, Chaldee, Syriac, Arabic, and Samaritan tongues. About the same time, also, he produced a Syriac grammar. Upon the deprivation of Dr. Ken, bishop of Bath and Wells, for not taking the oaths to the government, in 1691, he refused the offer of that see, though he was then chaplain to king William and queen Mary. In 1704 he was consecrated bishop of St. Asaph; in which high function he approved himself a truly primitive bishop. He died at Westminster Abbey, in 1707, aged seventy-one. As his whole-life was spent in acts of piety and charity, so at his death, he left the bulk of his estate for the propagation of the gospel, and promoting Christian knowledge at home and abroad. His *Private Thoughts upon a Christian Life* has always been a very popular book. Among his other works are, 1. *De Linguarum Orientalium*, &c. *Prestantia et Usu*, &c.

8vo. Lond. 1658; 2. *Institutionum Chronologicorum Libri Duo*, &c. 4to. Lond. 1669; 3. *Συνοδικον*, sive *Pandectæ Canonum*, &c. 2 vols. folio, Oxon. 1672; 4. *Codex Canonum Ecclesiæ*, &c. 4to. Lond. 1679; 5. *The Church Catechism Explained*, 4to. Lond. 1704. His executors, after his decease, printed *Thesaurus Theologicus*, 4 vols. 8vo.; *The Necessity of frequent Communion*; *An Exposition of the Thirty-nine Articles*, folio; *A Defence of the Old Version of the Psalms*; and above 150 sermons, in twelve 8vo. and two folio volumes.

BEVERLACIUS (Joannes), or John of Beverley. See JOHN, ST.

BEVERLEY, an ancient borough and market town of Yorkshire, governed by a mayor, a recorder, and twelve aldermen. It sends two members to parliament, elected by the freemen, who are about 400 in number. The minster here is a neat structure, and the roof is an arch of stone. Dr. Stukely says it was founded by king Athelstan, and is inferior to York minster in nothing but its size. In it are several monuments of the Percies, earls of Northumberland. In 1664 the grave of St. John of Beverley, archbishop of York, was discovered here, with many bones and relics. From an inscription on a plate, it appeared that the church was consumed by fire in 1188, and that, upon the rebuilding, the bones which were collected were deposited in the vault of John of Beverley. There are two other parish churches; a free school, with two fellowships, six scholarships, and three exhibitions, to St. John's College, Cambridge; and nine almshouses. The Liberties are said to contain above 100 towns, and parts of towns, in Holderness and other parts of the East Riding. The town is a mile in length, and the market-place contains four acres of land. It is adorned with a beautiful cross, supported by eight free-stone columns, each of an entire stone; the whole erected at the expense of some of the former borough members. The town, altogether, is well built; the streets are well paved, broad, neat, and clean. The principal trade is in malt, oat-meal, and tanned leather; and the poor people support themselves by making bone lace. Markets, Wednesdays and Saturdays. Inhabitants about 7500. It is nine miles north from Hull, twenty-eight from York, and 183 from London.

BEVERLEY, a post town of Massachusetts, in Essex county, situated on the north side of Salem Bay, and connected with the town of Salem by a bridge of 1500 feet in length. The inhabitants are devoted partly to navigation and the fisheries, and partly to agriculture; there is a bank, and, lately, a manufacture of cotton has been established here. It is twenty miles north-east of Boston. Long. 70° 50' W., lat. 42° 31' N.

BEVERLEY (John of). See JOHN, ST.

BEVERUNGEN, a town of Germany, in the diocese of Paderborn, seated on the confluence of the rivers Bever and Weser. Long. 9° 30' E., lat. 51° 40' N.

BEVIN (Elway), an eminent musician and composer in the reign of queen Elizabeth. Dr. Child was his pupil. He composed sundry services and anthems. Before Bevin's time the precepts for the composition of canons are said

to have been known to few; and the resolution of a canon into its elements, and reducing it into score, was deemed a work of almost as great difficulty as the original composition. He wrote A brief and short Instruction of the Art of Music, &c. published in 4to. 1631, and much esteemed.

BEULAH, a figurative name given to the Jewish nation and church, in Isaiah lxii. 4.

BEURT-SCHEEPEN, or BEURT SCHUYTEN, turn-boats; vessels at Amsterdam which have the exclusive privilege of taking in goods in the provinces; so called because they sail in turn, according to specific regulations.

BEUTHEN, a lordship and circle of Upper Silesia, created a free barony by the emperor Leopold, in 1796. It has for boundaries Oppeln on the west and north, and Poland on the east. The inhabitants speak the Polish language, and are mostly Catholics.

BEUTHEN, the chief town of the above district, frequently called Upper Beuthen, contains several churches and religious houses, and about 1700 inhabitants, among whom are between 100 and 200 Jews. Here are manufactures of cloth, earthenware, and calamine, besides some considerable breweries. About 9600 cwt. of calamine are made in the course of a year. It is likewise the residence of the governor of the circle. Thirty miles north-east of Ratisbon, lat. 50° 18' N., long. 18° 53' E.

BEUTHEN, LOWER, is a considerable town on the Oder, containing a population of about 3000 individuals. It stands in a fertile country, and has fifty vessels engaged in the trade of the river; it is also noted for its breweries.

BEVY, *n.* *Beva*, Italian; etymology unknown—applied to birds that go in company. Skinner says, to drink, and derives it from *bi-hera*, *bevere*. We read of a *bevie* of ladies, a *bevy* of jacks. By sportsmen the term is now confined, says the Ency. Met. to quails.

And in the midst thereof, upon the floor,

A lovely *bevy* of fair ladies sat,

Courted of many a jolly paramour.

Faerie Queene.

And wither rennes this *bevie* of ladies bright,

Raunged in a rowe.

Spenser.

None here, he hopes,

In all this noble *bevy*, has brought with her

One care abroad.

Shakespeare.

From the tents behold

A *bevy* of fair women richly gay

In gems and wanton dress, to the harp they sung

Soft amorous ditties, and in dance came on.

Milton.

BEWAIL', } Be and wail, Serenius says,
BEWAIL'ING. } from the *Isl. vela*; Goth.

wail, planctus, plaint; *waila*, to cry out as in anguish; to deplore, to lament, to bemoan, to express sorrow.

In this city he

Hath widowed and unchilded many a one,

Which to this hour *bewail* the injury.

Shakespeare.

Thy ambition,

Thou scarlet sin, robbed this *bewailing* land

Of noble Buckingham, my father-in-law.

Id.

Yet wiser Ennius gave command to all

His friends, not to *bewail* his funeral.

Sir John Denham.

And if I must *bewail* the blessing lost,
For which our Hampdens and our Sidneys bled,

I would at least *bewail* it under skies

Milder, among a people less austere,

In scenes which, having never known me free,

Would not reproach me with the loss I felt. *Couper.*

BEWARE', from be and ware, or wary; that is, cautious: thus, in an old treatise, I have found be ye ware. See WARY. *Lebanian*, Saxon; *warer*, Danish. To regard with caution; to be suspicious of danger from: generally the particle *of* goes before the thing which excites caution. It is observable, that it is only used in such forms of speech as admit the word *be*: thus we say, he may beware, let him beware, he will beware; but not, he did beware, or he has been aware.

Thither came Uriel, gliding through the even
On a sun-beam, swift as a shooting star
In autumn thwarts the night, when vapours fired
Impress the air, and shows the mariner
From what point of his compass to *beware*
Impetuous winds.

Milton.

You must *beware* of drawing or painting clouds,
winds, and thunder, towards the bottom of your piece.

Dryden.

Every one ought to be very careful to *beware* what he admits for a principle.

Locke.

Warn'd by the sylph, oh, pious maid *beware*!

This to disclose is all thy guardian can;

Beware of all, but most beware of man.

Pope.

BEWDLEY, or BEAULIEU, a borough and market town of Worcestershire, seated on the Severn; three miles from Kidderminster, and 128 north-west from London. It has its name Bewdley, Beawley, or Beaulieu, from its pleasant situation on the declivity of a hill overlooking the river, and commanding a most beautiful prospect. It was formerly accounted so delightful a place, that Henry VII. built a house in it for prince Arthur, which he called Tiken-hall, and here that prince was married to the proxy of Catherine of Spain, afterwards the wife of his brother, Henry VIII. Bewdley sent burgesses to parliament very early, and great privileges were bestowed upon it by Edward IV. and Henry VII. Its present charter, by which it sends one member to parliament, and is governed by a bailiff and burgesses, recorder, steward, town-clerk, &c. was settled in the reign of Queen Anne. It is neat and well built, and carries on a considerable trade, by the Severn, in malt, salt, glass, iron ware, leather, and Manchester goods. Market on Saturday. Population about 4000.

BEWEEP'. Be and weep, Ang.-Sax. *wepan*, bewepan. To weep over or upon; to bedew with tears.

Old fond eyes,

Beweep this cause again; I'll pluck ye out,

And cast you, with the waters that you lose,

To temper clay.

Shakespeare.

Larded all with sweet flowers,

Which *bewept* to the grave did go

With true love showers.

Id.

BEWET', *v. a.*, from wet. To wet; to moisten; to bedew; to water.

His napkin, with his true tears all *bewet*,

Can do no service on his sorrowful cheeks.

Shakespeare. Tit. And.

BEWICK (John), an artist, who, in conjunction with his brother Thomas Bewick, carried the art of engraving on wood to great perfection. They were settled at Newcastle-on-Tyne, where they printed in 1790 a History of Quadrupeds, an 8vo volume, which still maintains its credit, and were engaged in making engravings for a History of British Birds (published in 1797, 8vo.) when John Bewick died of a consumptive disease, December 5th, 1795. The author of the Pursuits of Literature has bestowed a merited eulogium on him.

BEWIL'DER. Be and wild. Wild is opposed to what is tamed or subdued; a wild or wilderness is applied to a place unsubdued or uncultivated, or unrestrained by man.—*Ency. Met.* To bewilder is to lose in pathless places; to confound for want of a plain road; to perplex; to entangle; to puzzle.

We parted thus; I homeward sped my way,
Bewild'ered in the wood till dawn of day. *Dryden.*

We no solution of our question find;
Your words bewilder, not direct the mind. *Blackmore.*

Our understanding traces them in vain,
Lost and bewildered in the fruitless search. *Addison.*

First Fear, his hand, its skill to try,
Amid the chords bewildered laid,
And back recoiled, he knew not why;
Even at the sound himself had made. *Collins.*

BEWITCH',	} Be and witch. Ang.-Sax. wiccian. To enchant; to use sorcery; to injure by witchcraft or charms; to charm; to please to such a degree as to take away the power of resistance; fascination; power of charming.
BEWITCH'ER,	
BEWITCH'ERY,	
BEWITCH'ING,	
BEWITCH'FUL,	
BEWITCH'INGLY.	
BEWITCH'MENT.	

And honour, glory, praise, renown, and fame,
That men's proud hearts bewitch with tickling pleasure,

An echo is, a shade, a dream, a flower,
With each wind blasted, spoiled with every shower.
Fairfax.

Come, come away, frail, silly, fleshy wight,
No let vain words bewitch thy manly hart,
No diuclish thoughts dismay thy constant spright
In heavenly mercies hast thou not a part? *Spenser.*

Look how I am bewitch'd; behold, mine arm
Is like a blasted sapling withered up. *Shakespeare.*

Doth even beauty beautify,
And most bewitch the wretched eye. *Sidney.*
I will counterfeit the bewitchment of some popular
man, and give it bountifully to the desirers.
Shakespeare.

My flocks are free from love, yet look so thin;
What magic has bewitched the woolly dams,
And what ill eyes beheld the tender lambs?
Dryden.

There is a certain bewitchery, or fascination, in
words, which makes them operate with a force beyond
what we can give an account of. *South.*

Let me observe, that oblique vision, when natural,
was anciently the mark of bewitchery and magical
fascination, and to this day 'tis a malignant ill-look.
Spectator.

The wanton beauty whose bewitching arts
Have drawn ten thousand wretched souls to hell.
Mrs. Rowe.

BEWRAY', or } Probably from the Ang.-
BERAY. } Sax. *wrgan*, to cover; that
is with dirt, with filth, and thus to signify to
befoul, to bespatter with dirt.—*Ency. Met.*

Let them that do so, understand, that they *beray*,
sile their hands more, when they lay them on any
other man than their owne husbandes, than though
they blacked them in soote.

Vives. Instruction of Christian Women.
Being, as it were, in a small puddle of mire, she
(the moon) is but a little sullied or *berayed* therewith,
and so quickly getteth forth of it.

Holland. Plutarch.

BEWRAY',	} Ang.-Sax. <i>wrgan</i> , <i>wreian</i> ; to accuse; to inform; to be an informer; to betray; to discover perfidiously. Formerly it was used to signify simply to discover or make visible.
BEWRAY'ER,	
BEWRAY'ING.	

How shalt thou to thy lady freshe May,
Tellen thy wo? she wol alway say nay;
Eke if thou speke she wol thy no *bewrein*;
God be thin help I can no better sein.

Chaucer. Canterbury Tales.

O messenger fulfilled of dronkenesse!
Strong is thy breath; thy limmes faltren ay;
And thou *bewreiest* alle serenesse;
Thy mind is lorn, thou janglest as a jay,
Thy face is turned in a new array. *Id.*

She saw a pretty blush in Philoclea's cheeks *bewray*
a modest discontent. *Sidney.*

Men do sometimes *bewray* that by deeds, which
to confess they are hardly drawn. *Hooker.*

But Blandamour, whenas he did espie
His chaunge of cheere that anguish did *bewray*;
He woxe full blithe, as he had got thereby,
And gan thereat to triumph without victorie. *Spenser.*

Fair feeling words he wisely 'gan display,
And, for her humour fitting purpose, fain
To tempt the cause itself for to *bewray*. *Faerie Queene.*

When a friend is turned into an enemy, and a
beurayer of secrets, the world is just enough to ac-
cuse the perfidiousness of the friend. *Addison.*

BEX, a small town of Switzerland in the
canton of Bern, remarkable for its salt works;
which are entered by a subterraneous passage
cut through the solid rock.

BEXUQUILLO, in the materia medica, a
name given to the white ipecacuanha in Peru.

BEY, among the Turks, signifies a governor of
a county or town. The Turks write it *begh* or
beg, but pronounce it *bey*. The word is par-
ticularly applied to a lord of a banner, whom
they call *sangiac beg* or *bey*. The provinces of
Turkey are divided into *sangiacs*, each of which
qualifies a *bey*: and these are all commanded
by the governor of the province, whom they call
begler-beg, that is, lord of all the *beghs* or *beys*
of the province. The title properly belongs to
the chiefs who hold grants of land on military
tenure, according to the ancient feudal system of
Europe. These *beys* are similar to our ancient
bannerets.

The **BEY** OF TUNIS is the prince of that place,
has a despotic power within his jurisdiction; at
the season for collecting the tribute from the
Arabs, he is sometimes assisted by a body of
troops from Algiers; and is, with the dey of
Algiers, nominally subject to the Porte.

BEYLERBEG. See BEG, sect. 2, and BEGLER-BEG.

BEYOND'. Sax. *begeonb*, *begeonban*. The imperative *be*, compounded with the past participle *geond*, *geoned*, or *goned*, of the verb *gan*, *gangan*, or *gongan*, to go, to pass; so that, 'beyond any place,' 'be passed that place,' or 'be that place passed.'—*Tooke*. It is however used in a variety of senses: for instance—Before, at a distance not yet reached; on the farther side of; farther onward than some given spot; past, out of the reach of; above, to a greater degree than above in excellence; remote from; not within the sphere of. *To go beyond* is to deceive, to circumvent, see 1 Thess. iv. ver. 6, That no man go *beyond*, and defraud his brother in any matter.

Ncither is it *beyond* the sea, that thou shouldst say, Who shall go over the sea for us, and bring it unto us? *Deut. xxx. 13.*

Now we are on the land, we are but between death and life; for we are *beyond* the old world and the new. *Bacon.*

Beyond the infinite and boundless reach

Of mercy, if thou didst this deed of death,

Art thou damned, Hubert. *Shakspeare.*

She made earnest benefit of his jest, forcing him to do her such services as were both cumbersome and costly; while he still thought he went *beyond* her, because his heart did not commit the idolatry. *Sidney.*

He that sees a dark and shady grove,
Stays not, but looks *beyond* it on the sky.

Herbert.

—— the universal host upsent
A shout that tore Hell's concave, and *beyond*
Frighted the reign of Chaos and old Night. *Milton.*

Yet these declare

Thy goodness *beyond* thought, and power divine. *Id.*

The just, wise, and good God neither does nor can require of man any thing that is impossible, or naturally *beyond* his power to do. *South.*

His satires are incomparably *beyond* Juvenal's, if to laugh and rally is to be preferred to railing and declaiming. *Dryden.*

With equal mind, what happens let us bear;
Nor joy, nor grieve, too much for things *beyond* our care. *Id. Fables.*

What's fame? a fancied life in others breath,
A thing *beyond* us, even before our death:
Just what you hear, you have. *Pope.*

Old wives there are, of judgment most acute,
Who solve these questions *beyond* all dispute;
Consult with those and be of better cheer,
Marry, do penance, and dismiss your fear. *Id.*
We cannot think men *beyond* the sea will part with their money for nothing. *Locke.*

All, all on earth is shadow, all *beyond*
Is substance; the reverse is folly's creed;
How solid all, where change shall be no more. *Young.*

It is that settled, ceaseless gloom,
The fabled Hebrew wanderer bore;
That will not look *beyond* the tomb,
But cannot hope for rest before. *Byron.*

Apart he stalked in joyless reverie,
And from his native land resolved to go,
And visit scorching climes *beyond* the sea.
With pleasure drugged he almost longed for woe,
And e'en for change of scene would seek the shades below. *Id. Child Harold.*

BEYRAMITCH, a large city of Asia Minor, in the district of Troas, and pachalic of the Dardanelles, distant from the straits about fifty miles. It is a well built place, abounding with antiquities, particularly some sarcophagi, consisting of large single blocks of granite. The ruins of a temple, dedicated to Jupiter, have been recently discovered here.

BEYS (Giles), a celebrated printer at Paris, in the sixteenth century; the first introducer of the consonants J. and V.

BEZA (Theodore), an eminent reformer, was born at Vezelai, in Burgundy, June 24th 1519. He was brought up by his uncle Nicholas de Beza, counsellor of the parliament of Paris, till the month of December, 1528, when he sent him to study at Orleans, and afterwards at Bourges, where he was under the care of Melchior Wolmar, under whom he made extraordinary progress, and from whom he imbibed the principles of Calvinism. His uncle intended him for the bar; but the law not suiting his disposition, he spent most of his time in reading the Greek and Latin authors, and in composing verses. In 1539 he took up his licentiate's degree, and went to Paris. He fell into the usual snares of youth, and wrote some licentious pieces. Sickness alarmed him; and on recovering he fulfilled a vow he made, of declaring for the reformed religion. This he did by going to Geneva, and making public profession of it. In 1549 he accepted of the Greek professorship at Lausanne, where he also read lectures in French, on the New Testament. Having settled at Geneva, he became the colleague of Calvin in the church and university. Being sent to Nerac with a view to the conversion of the king of Navarre, and to confer with him upon affairs of importance, the king expressed, both by letters and deputies, his desire, that Beza might assist at the conference of Poissy. The assembly hearkened attentively to his harangue, till, speaking of the real presence, he said, 'that the body of Jesus Christ was as distant from the bread and wine, as the highest heaven is from the earth.' Upon this, some cried out, Blasphemavit! others hastened away. Cardinal de Tournon desired the king and queen either to silence Beza, or permit him and his company to withdraw. Beza, throughout the conference, behaved with great ability. He often preached before the queen, the prince of Condé, and in the suburbs of Paris. After the massacre of Vassy, he was deputed to the king to complain of this violence. The civil war followed soon after, during which the prince of Condé kept him with him; and while the prince was imprisoned, he lived with admiral de Coligni, and did not return to Geneva, till after the peace of 1563. In 1571 he was chosen moderator at the national synod of Rochelle; and the year after assisted at that of Nismes; after this, he assisted at the conference of Montbeliard and of Bern. The infirmities of age beginning to afflict him in 1596, he could seldom speak in public; and he left it off entirely in the beginning of 1600. However, in 1597, he wrote some animated verses against the Jesuits, on occasion of the report that was made of his recantation and death. He died 13th of

October, 1605. His chief works are, 1. *Confessio Christianæ fidei*, 8vo. 2. *De Hæreticis a civili Magistratu puniendis*, 8vo. 3. *Comedie du Pape Malade*, 8vo. 4. *Traduction en vers François des Pseumes omis par Marot*. 5. *Histoire de la Mappemonde Papistique*, 4to. 6. *Le Reveilment des François et de leurs voisins*, 8vo. 7. *De Peste Questiones duæ Explicatæ*; una, sit ne Contagiosa? altera, an et Quatenus sit Christianis per Secessionem Vitanda? 8. *Histoire Ecclesiastique des Eglises Reformées au Royaume de France*, 3 vols. 8vo. 9. *Icones Virorum Illustrium*, 4to. 10. *Tractatio de Repudiis et Divitiis*; Accedit *Tractatus de Polygamia*, 8vo. 11. *Epistola Magistri Passavantii ad Petrum Lysetum*. 12. The New Testament translated into Latin, with notes, folio. Beza gave a Greek MS. of the third or fourth century, of the gospels and acts of the apostles, to the University of Cambridge, where a fac-simile of it was published in 1793, in 2 vols. folio.

BEZALEEL, the son of Uri, of the tribe of Judah, an artificer, employed by Moses in erecting the tabernacle, and supposed to have been in some degree inspired for that purpose.

BEZANS, in commerce, cotton cloths which come from Bengal; some are white and others striped with several colors.

BEZANT, round flat pieces of bullion without any impression, supposed to have been the current coin of Byzantium.

This coin was probably introduced into coat armour by those who went to the Holy Wars, as in the annexed figure. Ermine on a fess, gules, three bezants. The bezant was of pure gold, but whether it was the same as the Persian bizant, worth about two dinars, each dinar being equal to twenty or twenty-five drachms, is uncertain, as writers are not agreed respecting its value. It had, perhaps, as general a currency as any coin. It was current from the rise of the eastern empire to its fall, in all its provinces; and likewise in those countries which had been provinces of the western empire; and among others in Britain, where they were received in payments. Dr. Henry (*History of England*, vol. iv. 275,) estimates its value at 9s. 4½d. of our present money. The gold offered by the king of England on the altar at the feast of the Epiphany and the Purification, is called besant.



BEZANTLER, the branch of a deer's horns, next below the brow-antler.

BEZEK, 1. A city of Judah, about two miles from Beth-zur, and west of Bethlehem; the capital of Adoni-Bezek's kingdom. 2. A city south of Bethshan west of Jordan.

BEZEL, *z* n. s. That part of a ring in which **BEZIL**. *s* the stone is fixed.

BEZIER, or **BESIER**, an ancient and well-built town of France, in Lower Languedoc, near a canal of that name. It was formerly a bishop's see, and gave birth to the learned Barbeyrac. The neighbourhood is fertile and the site highly salubrious. The valley of the Orbe is bounded by hills, which are covered with vines and olives to the summit of a natural amphitheatre.

The beauty of it, as seen from the town, is increased by the eight sluices of the grand canal, which form as many fine water-falls. There is a cathedral and collegiate church here, several religious houses, and two hospitals; a good trade in wine, oil brandy, almonds, corn, wool, and silk; and manufactures of cotton, fustian, and other stuffs, stockings, earthenware, brandy, and leather. An Academy of Sciences was founded in 1723, and has survived the revolution. It stands thirty-eight miles south-west of Montpelier, in lat. 43° 20' N., and long. 3° 17' E.

BEZOAR. This name, which is derived from a Persian word, implying an antidote to poison, was given to a concretion found in the stomach of an animal of the goat kind. It was, of course, highly valued for this imaginary quality, and the name was thence extended to all concretions found in animals.

According to Fourcroy, Vauquelin, and Berthollet, these are of eight kinds. 1. Superphosphate of lime, which forms concretions in the intestines of many mammalia. 2. Phosphate of magnesia, semitransparent and yellowish, and of spec. grav. 2.160. 3. Phosphate of ammonia and magnesia. A concretion of a gray or brown color, composed of radiations from a centre. It is found in the intestines of herbivorous animals, the elephant, horse, &c. 4. Biliary, color reddish-brown, found frequently in the intestines and gall-bladder of oxen, and used by painters for an orange-yellow pigment. It is inspissated bile. 5. Resinous. The oriental bezoars, procured from unknown animals, belong to this class of concretions. They consist of concentric layers, are fusible, combustible, smooth, soft, and finely polished. They are composed of bile and resin. 6. Fungous, consisting of pieces of the *boletus ignarius*, swallowed by the animal. 7. Hairy. 8. Ligniform. Bezoars were formerly considered so highly alexipharmic, that other medicines of that kind received the name bezoardics, and so efficacious were they once thought, that they were eagerly bought at immense prices. They were sometimes taken internally, and in other cases worn around the neck, as preservatives: it is said that in Portugal it has been customary to hire them at the price of 10s. per day. This great value of the bezoar gave birth to many fabrications under the name, and various tests were proposed to detect artificial stones. Three bezoars sent to Buonaparte by the king of Persia, were found by Berthollet to be nothing but woody fibre agglomerated.

BEZOARDIC acid, a name given to the acid extracted from the urinary calculi formed in the kidneys or gall-bladder.

BEZOARDICA TERRA, a name used by some authors for a medical earth dug in the pope's territories, and more frequently called *terra noceriana*.

BEZOARDICK, *adj.* From bezoar. Medicines compounded with bezoar.

The *bezoardicks* are necessary to promote sweat, and drive forth the putrid particles. *Floyer.*

BEZOLA, in ichthyology, a truttaceous fish of the albula kind, called by Gesner the *albula carula*. It resembles the herring in shape, is of a

dusky bluish color, and does not essentially differ from the lavaretus.

B FA, B MI, in solmisation (music), according to the hexachord of Guido Aretinus, this expression denotes, that, when in modulation the interval B-natural is required, the syllable *mi* should be sung, and the key designated by B-mi, because the half tone falls between the B-natural, and C, and belongs to the hexachord of G, the fourth space bass clef: as,

G	A	B-natural	C	D	E
ut	re	mi	fa	sol	la

if, on the contrary, the modulation requires the interval B-flat, then the syllable *fa* should be sung, and the key designated by B-fa: as,

F	G	A	B-flat	C	D
ut	re	mi	fa	sol	la

As the gamut of Aretin was composed only of six notes, namely, ut re mi fa sol la, there was no leading note to the octave, and as they sung by the system of mutation, the name of mi was given to all notes separated only from the one above, by a semi-tone; and the name of fa to every note which was separated from the one below, by a semi-tone; thus the leading note to ut, called mi in solmisation, was designated by the name of B-mi, and the same note descending by one semi-tone, called fa in solmisation, was designated B-fa.

BIADRINATH, VADARINATHA, a town and temple in the province of Serinagur, Northern Hindostan, on the west bank of the Alacananda River, in the centre of a valley. It is built on the sloping bank of the river, and contains only twenty or thirty small houses, for the accommodation of the Brahmins and other attendants on the temple. This is in the form of a cone, with a small enpola, surmounted by a square shelving roof of copper, over which is a golden ball (gilt) and spire. The height of the building is forty or fifty feet, and the era of its foundation is very remote. A warm bath, supplied by a spring of hot water that issues from the mountain, is strongly tainted with a sulphureous smell, and close to it is a cold spring. There are also several other springs in the neighbourhood.

The idol, Bhadrinath (the lord of purity), is a human figure, about three feet high, cut in black stone or marble, dressed in a suit of gold and silver brocade, the head and hands being uncovered. His temple has more benefited lands attached to it than any sacred Hindoo establishment in this part of India, and is said to possess 700 villages, in different parts of Gurwal or Kemaon, all under the jurisdiction of the high-priest, who holds an authority nominally independent. The number of pilgrims who visit this place annually is estimated at 50,000, who come from the remotest quarters of India. They generally assemble at Hurdwar.

BIATGAN, or BHATGONG, a town in Northern Hindostan, situated in the valley of Nepaul, eight miles east by south of Catmandoo. Its ancient name was Dhurmaputten, and it is called by the Newars Khopodaise. This town is the favorite residence of the Brahmins of Nepaul, containing many more families of that order than

Catmandoo and Patan together, though in size it is the least considerable of the three; yet its palace and the buildings in general are of a more striking appearance, owing to the excellent quality of the bricks. The former sovereigns of this state possessed but a small share of the valley; but their dominions extended eastward to the banks of the Coosey. Bhatgong is the Benares of the Ghoorkhali dominions, and is said to contain many valuable ancient Sanscrit manuscripts.

BIATTIA, a town in the western extremity of the Gujrat Peninsula, situated a few miles to the east of Oaka. It contains about 500 houses, chiefly inhabited by Aheers, an industrious class of the peasantry, originally herdsmen, but who of late years have applied themselves to the cultivation of land. The country to the north of Bhattia exhibits an appearance of cultivation and prosperity superior in general to the rest of the peninsula. The grain chiefly raised is bajaree.

BHURTPORE, a strongly fortified town of Hindostan, in the province of Agra; the capital of the Jauts. It was erected by a Jaut chief, in the reign of Aurungzebe, who gained considerable power during the civil wars between that prince and his brothers. In the year 1768 his successors had extended their territory within a few miles of Delhi, westward, and their alliance was much courted. On the breaking out of the last Mahratta war, the Jaut rajah, Runjeet Sing, promised to assist the British, but afterwards formed an alliance with Scindea and Holkar, in consequence of which this territory was invaded by Lord Lake; the fortress of Deeg, and several places were taken, but Bhurtpore endured a memorable siege. The British are said to have lost in it more men than by any three pitched battles they ever fought in India. It submitted at last, worn out by our perseverance. At the moment when we write this, despatches from India announce that it has been again besieged by the British, under lord Combermere, and was taken by storm in January, 1826. This tribe is said to be remarkably brave and handsome; and less bigotted to their superstitions than many other of the Hindoos. It stands in long. 77° 28' E., lat. 27° 13' N.

BIA, in commerce, a name given by the Siamese to those small shells which are called cowries throughout almost all the other parts of the East Indies. See COWRIES.

BIABACERKIF, a town of Russia, in the government of Kiow.

BIACULEATUS, in ichthyology, a species of balistes, having two ventral spines. This is the *piscis cornutus* of Willoughby. It is of an elongated form, white, cinereous above, rough to the touch, being covered with very short bristly hairs. It is a native of the East Indies, and is a voracious kind, feeding probably on marine worms and crabs. The Dutch call it *hoornvisch*; and the French, *baliste à deux piquans*.

BIÆUM, *βιαιον*, in rhetoric, a kind of counter argument, whereby something alleged for the adversary is retorted against him, and made to conclude a different way: for instance, *Occidisti, quia adstitisti interfecto*.—*βιαιον*, Immo quia adstiti interfecto, non occidi; nam si id esset, in fugam me conjecissem. 'You killed the person,

because you were found standing by his body.' *Biaum*, 'Rather I did not kill him, because I was found standing by his body; since, if I had, I should have fled away.'

BIAUM, in medicine, a kind of saline or sea-wine, used by the ancient Greeks in various disorders. It was made of grapes gathered a little before ripe, and dried in the sun; then pressed, the juice put up in casks, and mixed with a large proportion of sea-water. *Dioscorides* seems to describe it as made of grapes steeped in sea-water, and then pressed.

BIAFARA, or *BIAFRA*, a district of Lower Africa, south-east of Benin, with a capital of the same name, said to be situated about sixty miles up the river Camarones. This river, though broad, is extremely shallow, and the country has been very partially explored.

BIAFARAS, a people who inhabit part of the archipelago of the Bissagos. See *BISSAGOS*.

BIAFORA, in the customs of the middle age, a form of alarm to arms; on the hearing whereof, the inhabitants of towns or villages were to issue forth, and attend their prince. The word seems originally from Gascony; and the Italians even now, on a sudden insurrection of the people, commonly cry, *Via-fora*, changing the B into V.

BIALOGOROD, or *AKERMAN*, a strong town of Bessarabia, in European Turkey, seated on the lake Vidono, near the sea-side.

BIALYSTOCK, or *BIALLISTOK*, a town of European Russia, in the government of Grodno, and formerly included in the Polish palatinate of Podlachia. It was formerly the capital of this part of the country, and contains a noble castle with extensive gardens. The whole population is about 5000; the greater part of whom are Roman Catholics. Lat. 53° 2' N., long. 22° 30' E.

BIANA, an ancient city of Hindostan, formerly the capital of Agra; but now belonging to the Jauts. The remains of an extensive fort are to be traced here, and the city contains a number of stone houses. The vicinity produces fine indigo; and there were formerly mines of copper worked here. At the close of the fourteenth century it was the residence of an independent Afghan chief, who assumed the title of king. Lord Lake took it the last Mahratta war. Long. 77° 16' E., lat. 26° 56' N.

BIANCHI (Francis), called *Il Frari*, a painter, born at Modena; master of one of the most esteemed painters that ever appeared, *Antonio Corregio*. His coloring was delicately fine; his attitudes full of grace; and his invention extremely grand. His works have an astonishing beauty, and are prized almost as highly as those of *Corregio*. He died in 1520.

BIANCHI (Antonio), a Venetian gondolier and porter of the last century, who raised himself from obscurity by his genius. His most admired work is, *Il Davide Re d' Israele*, published in folio in 1751. He also wrote a poem, entitled *Il Templi* ovvero *il Salomone*, 4to, 1753; a Treatise on Italian Comedy; and an Oratorio, called *Elia sur Carmelo*.—*Biog. Univ.*

BIANCHI (John), generally known by the name of *James Plancus*, was a native of Rimini, and born in 1693. He practised medicine with considerable reputation, and wrote—*Lettere In-*

torno all Cataratta, 4to; *Observazioni intorno una Sezione Anatomica*, 4to; *De Monstris*, 4to; *Storia Medica d'un Apostema nel lobo destro del Cerebello*, 8vo; *Discorso sopra il vitto Pitagorico*, 8vo; a Treatise on the Baths of Pisa; another respecting a giant; a third on scarce shells; an account of a girl named *Cattarina Vizani*, &c.; *Epistola Anatomica ad Jos. Puteum Bononiensem*, 4to; *Dissertazione de Vesicatori*, 8vo; and *Fabii Columnæ Phytobasanos*. He was considered very skilful in his profession, and died in 1775.

BIANCHINI (Francis), one of the most learned men of his time, was born at Verona in 1662, of an ancient family. His taste for natural philosophy and mathematics induced him to establish the academy of *Altofilii*, at Verona. He went to Rome in 1684; and was made librarian to cardinal Ottobini, afterwards pope Alexander VIII. He also became canon of St. Mary de la Rotonda, and at length of St. Lawrence in Damasco. He was esteemed by the learned; and was a member of many academies. He published, 1. Three Memoirs on the Comet of 1684. 2. Another on the Comet of 1702. 3. *Relazione della linea meridiana orizzontale e della ellissi polare fabricata in Roma*. 4. *Epistola de Eclipsi Solis*, 1724. 5. *Hesperii et Phosphori nova Phenomena, sine Observationes circa Planetam Veneris*, fol. 6. *F. Bianchini Astronomica et Geographica Observationes*, fol. 7. *De Emblemate, nomine atque instituto Alethophilorum*, 4to. 8. *Istoria Universale Provata con Monumenti e Figurata con Simboli degli antichi*, 4to. 9. *De Calendario et cyclo Cæsaris ac de Paschali canone S. Hippolyti*, fol. 10. *Camera et Inscrizioni Sepolcrali*, fol. 11. *Del palazzo de' Cæsari*. 12. An edition of *Anastasius Bibliothecarius' history of the Popes*, fol. 13. *Opuscula Varia*, 2 vols. 4to. He died in 1729, aged sixty-seven.

BIANGULATED, *adj.* From Lat. *binus* *BIANGULOUS*. *adj.* and *angulus*. Having two corners or angles.

BIANOR, in entomology, a species of papilio, a native of the East Indies. The wings are black, with five rufous lunules on the posterior pair. It is doubtful whether this is a distinct species from *P. Paris*; perhaps only a sexual difference.

BIARCHIUS, an officer in the court of the emperors of Constantinople, who was intrusted with the care and inspection of the provisions of the soldiers.

BIARUM, in botany, a name by which the people of Egypt at this time call the root of nilufar, or saba *Ægyptica*, growing on the Nile.

BIAS, *v. n. s. adj. & adv.* *adj.* *Biais*, Fr. said *BIAS DRAWING*, *adj.* to come from *bi-hay*, an old Gaulish word, signifying cross or thwart. It is used metaphorically for to turn away from a right, fair, impartial judgment; to prejudice; any thing which turns a man to a particular course, or gives the direction to his measures; propension; inclination; any thing which turns, or is turned, aside.

Every action that hath gone before,
Whereof we have record, trial did draw
Bias and thwart, not answering the aim.

Shakspeare. Troilus and Cressida.

Blow till thy *bias* cheek
Outswell the cholic of puffed Aquilon.

Id.

Madam, we'll play at bowls—
'Twill make me think the world is full of rubs,
And that my fortune runs against the *bias*.

Shakspeare.

You have been mistook :

But nature to her *bias* drew in that.

Id.

As for the religion of our poet, he seems to have
some little *bias* towards the opinions of Wickliff.

Dryden.

Were I in no more danger to be misled by ignorance,
than I am to be *biased* by interest, I might
give a very perfect account.

Locke.

A desire leaning to either side *biasses* the judgment
strangely ; by indifference for every thing but
truth, you will be excited to examine.

Watts.

Thus nature gives us, let it check our pride,

The virtue nearest to our vice allied ;

Reason the *bias* turns to good or ill.

Pope

BIAS, a celebrated philosopher, and one of
the seven sages of Greece, flourished about
A.A.C. 606. He was accustomed to say, 'It
is a sickness of mind to wish for impossible
things.' During the siege of Priene, his native
city, being asked why he was the only one
who returned from the place without carrying
any thing with him, he replied, That he
carried his all with him ; meaning, that his
knowledge and virtue were the only blessings
that were peculiarly his own, since they could
not be taken from him. He expired while
pleading for one of his friends.

BIAS, in entomology, a species of papilio
that inhabits Cayenne. The wings are black,
glossed with blue ; brown beneath, with a white
margin.

BIATHANATI, *βιαθανατοις*, from *βια*, violence,
and *θανατος*, death, the same with suicides.

BIATHANATOS, the title of a work of Dr.
Donne's, published at London in 1664, 4to.
wherein he undertook to prove this paradoxical
position, 'That suicide is not so naturally sin as
that it may never be otherwise.'

BIB, *n. s. & v.* From the Lat. *bibere*, to drink.
BIB'BER, } 'A *bib*,' according to Skinner,
BIB'ING, } is a cloth stretched over the
BIB'ULOUS, } breast of an infant, that it may
imbibe the overflowing liquid' from its mouth ;
to *bib* is to tipple ; to *sip*, to drink frequently ;
to be a sot ; a wine-bibber is a person given to
wine, who drinks it to excess.

This miller hath so wisely *bibbed* ale,
That as a hors he snorteth in his slepe. Chaucer.
We'll have a *bib* for sporting of thy doublet ;
And a fringed mackender hang at thy girdle ;
I'll be thy nurse, and get a coral for thee,
And a fine ring of bells. Beaumont and Fletcher.
He playeth with *bibbing* mother Meroë, as though
so named because she would drink mere wine without
water. Camden.

To appease a froward child, they gave him drink
as often as he cried ; so that he was constantly *bibbing*,
and drank more in twenty-four hours than I did.

Locke.

I would fain know, why it should not be as noble
a task to write upon a *bib* and hanging sleeves, as on
the hulla and pretexta.

Addison.

Strowed *bibulous* above, I see the sands,

The pebbly gravel next, the layers then,

Of mingled moulds, of more retentive earths.

Thomson.

BIB'BLE-BAB'BLE. *Babble-babble*, frivolous,
unmeaning talk.

Malvolio, Malvolio, thy wits the heavens restore ;
endeavour thyself to sleep, and leave thy vain *bibble-
babble*. Shakspeare.

BIBERACH, a city of Wirtemberg, the head
of an upper bailiwick, in the district of the Danube.
It was formerly free and imperial, subject to its
own magistrates. It is seated in a pleasant fertile
valley on the river Reuss, and has a large manufac-
ture of fustians. Here are also manufactures of
linen, woollen, and cotton goods, and leather ; and
a considerable trade in salt. It has also some hot
baths. In September, 1796, a victory was ob-
tained in its neighbourhood, by the French re-
publican army, over the Austrian general Latour,
and in 1802 this city and territory were ceded
to Baden, who transferred them in 1806 to the
king of Wirtemberg. Population about 4500,
of whom two-thirds are Lutherans, and the rest
Catholics. It lies eighteen miles S. S. E. of Ulm.
Long. 10°. 2' E., lat. 48° 10' N.

BIBERACH, is also the name of a neat market
town, castle, and lordship, of the Bavarian do-
minions, in the circle of the Upper Danube and
district of Wertingen. It is situated on the
river Schmutter, and belonged formerly to the
counts of Fugger. It contains about 1200 in-
habitants, and is much resorted to by Catholics
on account of a miraculous crucifix said to be
found in one of the churches. Nine miles from
Augsburg.

BIBIENA, a territory of Tuscany, situated
around a town of the same name, on the banks
of the Arno.

BIBIENA (Ferdinand Gall), an excellent
painter and architect, born at Bologna in 1657,
and surnamed Bibiena from the territory in which
his father was born. He acquired such reputa-
tion by his skill in architecture, the decorations
of the theatre, and perspective, that the duke of
Parma invited him to his court, and made him
his first painter and architect. Bibiena at length
went to Vienna, where he had the same honors
and advantages. He wrote two books of archi-
tecture ; and died at Bologna, at above eighty
years of age. His sons followed with success
the same professions.

BIBIENA (Bernardo da), a Roman cardinal,
born of obscure parentage, in 1470. Having
entered into the service of the family of Medici,
and being a man of considerable address, he
was very instrumental in securing the election of
Leo X. by whom he was made a cardinal, and
employed on several missions of importance.
His ambition, however, having excited the jeal-
ousy of Leo, it was suspected he was poisoned
in 1520 ; but there seems to be no good grounds
for this suspicion. Bibiena's comedy, entitled
Calandra, is still in esteem among the Italians.

BIBIO, the wine-fly, in entomology, a species
of the musca genus, a very small fly, found fre-
quently among empty wine-casks. It is pro-
duced from a small, oblong, red worm, very
common in the sediments of wine. Fabricius
defines the generical character of bibio from the
sucker, feelers, and antennæ. The sucker con-
sists of three bristles and a sheath of a single
valve ; feelers very short ; antennæ connected at
the base, and pointed at the tip.

B I B L E.

BIBLE, Literally, a book, probably from *βιβλος*, or *βιβλος*, an Egyptian plant, of which the ancient papyrus, or material for writing upon, was made. Rolls of these, written upon, were called books, *Bibles*. It is now pre-eminently, if not exclusively, applied to the Jewish and Christian Scriptures—the volume of Divine Revelation. *Biblical* is applied to any thing that relates to the Bible: thus a critic, who employs his studies in elucidating or explaining the Scriptures, is called a *biblical critic*. *Bible-bearing* is a very significant word to denote a hypocrite thus employing himself—‘to be seen of men.’

A saint-seeming and bible-bearing hypocritical puritan. *Montagu's Appeal.*

Her studie was but litel on the Bible.

Chaucer. Cant. Tales.

To tellen all would possen any Bible.

That o wher is.

Id.

If we pass from the apostolick to the next ages of the church, the primitive Christians looked on their bibles as their most important treasure.

Government of the Tongue.

We must take heed how we accustom ourselves to a slight and irreverent use of the name of God, and of the phrases and expressions of the holy bible, which ought not to be applied upon every slight occasion.

Tillotson.

In questions of natural religion we should confirm and improve, or connect our reasonings by the divine assistance of the bible.

Watts.

To make a *biblical* version faithful and exact, so that it may represent the true text of the original in the best manner, is very different from giving it a showy and modernised appearance.

Archbishop Newcome.

Augustine and Jerome corresponded upon *biblical* subjects infinitely less important.

Porson to Travis.

Biblicist was an ‘appellation given to the schoolmen of the twelfth and thirteenth centuries, who made the Scriptures the chief subject of their studies, and the text of their lectures, without deriving any succours from reason or philosophy.’

BIBLE, Greek *βιβλος*, the book; a name applied by way of eminence to the collection of sacred writings, or the Holy Scriptures of the Old and New Testaments; known also by various other appellations, as, the Sacred Books, Holy Writ, Inspired Writings, &c. The Jews styled the Old Testament *מִקְרָה* (*Mikrah*), which signifies the lesson or lecture. Christians must of course regard the entire collection of canonical books, belonging to both of the Divine Covenants, as furnishing the basis of all true religion; ‘so that,’ as the church of England well expresses it, ‘whatsoever is not read therein, nor may be proved thereby, is not to be required of any man, that it should be believed as an article of faith, or be thought requisite or necessary to salvation.’ It is therefore a vulgar, though very common, error to apply the term Bible to the Old Testament exclusively. A writer of the New Testament (St. Peter) leads the way (2 Epist. iii. 16) in ranking its books with *τας λοιπας γραφας*, ‘the other Scriptures’; and

as early as St Chrysostom’s days it seems to have been used thus to designate the whole Inspired Volume. ‘I therefore exhort all of you,’ says that eminent father (Col. II. 9, tom. xi. p. 391,) ‘to procure to yourselves Bibles (*βιβλια*). If you have nothing else, take care to have the New Testament, particularly the Acts of the Apostles and the Gospels, for your constant instructors.’ And Jerome says (In Is. c. 29, tom. ii. p. 246,) ‘that the Scriptures, being all written by one Spirit, are one book.’

The Canon of Scripture, or Biblical Canon, is the accredited list of those books which Jews and Christians with regard to the Old Testament, and Christians almost unanimously with regard to the New, agree to hold as authentic and inspired: they are also called canonical in contradistinction from others called deuterocanonical, apocryphal, pseudo-apocryphal, &c. which either are not acknowledged as divine books, or rejected as heretical or spurious. See APOCRYPHAL.

The critical history of the Bible divides itself into 1. The history of the formation and arrangement of the Jewish canon; 2. The formation of the Christian canon. 3. The history of ancient and modern versions of the Scriptures as a whole, or in part, in various languages.

SECT. I. OF THE CANON OF THE HEBREW SCRIPTURES.

In endeavouring to arrive at a settled canon of the ancient or Hebrew Scriptures, we have the great advantage of corroborating our researches as Christians by the labors and decisions of eminent Jewish critics; so that whatever may be objected against the authority of the present canon of the Old Testament, either in behalf of any books which are not in it or against any that are, may be sufficiently answered, in most cases, by this single consideration, viz. that we receive the same and no other books than such as were received by the Jewish church in the time of our Saviour; for we can quote lists of them procured by the first Christians, and catalogues which they made of them soon after the destruction of Jerusalem.

It is clear that the Pentateuch, or five books of Moses, were collected shortly after the death of that legislator, for they were deposited together (Deut. xxxi. 24. 26) in the tabernacle, ‘in the side of,’ or near the ark. Here also were accumulated, according to the invariable tradition of the Jews, the other sacred books as they were produced; and Solomon transferred the whole extant in his time, from the tabernacle to the temple. To Ezra is assigned the honor of having collected together, and perfected, a complete copy of the ancient Scriptures. After having been concealed in the dangerous days of the idolatrous kings of Judah, and particularly in the reigns of Manasseh and Amon, it was found in the days of Josiah, the succeeding prince, by Hilkiah the priest, in the temple. Prideaux supposes, that during the preceding reigns, the book of the Law was so de-

stroyed and lost, that, besides this copy of it, there was then no other to be obtained, and refers to the surprise manifested by Hilkiah, on the discovery of it, and the grief expressed by Josiah when he heard it read, as plainly showing that neither of them had seen it before, 2 Kings, xxii. 8—13. 2 Chron. xxxiv. On the other hand, Dr. Kennicott contends, that long before this time there were several copies of the Law in Israel, during the separation of the ten tribes, and that there were some copies of it also in the possession, at least of the prophets and priests belonging to the two more faithful tribes of Judah and Benjamin. He thinks that the surprise expressed by Josiah and the people, at his reading the copy found by Hilkiah, may be accounted for by adverting to the history of the preceding reigns, and particularly recollecting what a very idolatrous king his grandfather Manasseh had been; wanting neither the will nor the power to destroy the copies of the Law, if they had not been carefully secreted. This solemn reading of it by Josiah would doubtless awaken his own and the peoples' earnest attention; more especially as the copy produced was possibly the autograph of Moses. From this time copies of the Law were extensively multiplied among the people; and though, within a few years, the original copy might be burnt with the city and temple, it is certain that Daniel had a copy of the Scriptures with him at Babylon; for he quotes the Law, and mentions the prophecies of Jeremiah. Dan. ix. 11, 13, ix. 2. It appears also, from the sixth chapter of Ezra, and from the ninth chapter of Nehemiah, that copies of the Law were dispersed among the people. It is unnecessary, therefore, to suppose, with some of the fathers, that Ezra restored the Scriptures by a divine revelation, after they had been lost and destroyed in the captivity; an opinion resting only on the authority of a fabulous relation, which occurs in the fourteenth chapter of the second apocryphal book of Esdras. What Ezra did may be comprised in the following particulars. He collected and collated as many copies of the sacred writings as he could find, and out of them all formed one complete copy, adjusted the various readings, corrected the errors of transcribers, and, as some say, annexed the 'Kerichetib,' which are found in the margins of the ancient MSS. He likewise made additions in several parts of the different books which appeared to be necessary for their illustration, correction, and completion. To this class of additions, we may refer the last chapter of Deuteronomy, which, as it gives an account of the death and burial of Moses, and of the succession of Joshua after him, could not have been written by Moses himself. Under the same head have also been included many other interpolations in the Bible, which create difficulties that cannot be solved without allowing them; as in Gen. xii. 6, xxii. 14, xxxvi. 3. Exod. xvi. 35. Deut. ii. 12, iii. 11, 14. Prov. xxv. 1. The interpolations in these passages are ascribed by Prideaux to Ezra; and others which were afterwards added, he attributes to Simon the Just. Ezra also changed the old names of several places that were become obsolete, putting instead of them the

new names by which they were at that time called; instances of which occur in Genesis xiv. 4, where Dan is substituted for Laish, and in several places in Genesis, and also in Numbers, where Hebron is put for Kirjath Arba, &c. He likewise wrote out the whole in the Chaldee character, charging for it the old Hebrew character, which has since that time been retained only by the Samaritans, and among whom it is preserved to this day.

Dupin contends that Nehemiah was principally concerned in compiling and collecting this canon; for proof of which he refers to the letter of the Jews of Jerusalem, written to the Jews of Egypt, mentioned in the beginning of the second book of Maccabees, in which it is said, that Nehemiah had collected the books of the Kings, of the Prophets, and of David. It is said that this canon was then approved by the grand Sanhedrim, the great synagogue or council of seventy, and published by its authority. It is, however, says Dupin, more apparent that about that time the number of the sacred books was fixed among the Jews by a canon, which the whole Jewish nation received and followed; so that they looked no longer upon such books as sacred and divinely inspired, which were not contained in it.

The canon of the whole Hebrew Bible seems, says Kennicott, to have been closed by Malachi, the latest of the Jewish prophets, about fifty years after Ezra had collected together all the sacred books which had been composed before and during his time. Prideaux supposes the canon was closed by Simon the Just, about 150 years after Malachi. Be this as it may, it seems well established, that Judas Maccabæus repaired the temple, and replaced in it every thing necessary for the performance of divine worship (1 Macc. iv. 36—59), which included a correct copy of the Hebrew Scriptures, if not that of Ezra himself. And that this copy remained in the temple until the destruction of Jerusalem and the subversion of the Jewish polity under Titus, when it was carried in triumph to Rome, among the other spoils which he had taken.

From the New Testament, as well as from the testimony of Josephus, it appears that this standard canon of Old Testament Scripture was divided into the three parts, of the Law, the Prophets, and the Hagiographa, or Psalms (Luke xxiv. 44). Josephus, *Contra Apion*. i. 8. tom. ii. p. 441., says the canonical books were distributed into three classes; the first containing the five books of Moses; the second, thirteen historical and prophetic books, written from the time of the death of Moses to Artaxerxes; and the third, four books of hymns and of morality; the whole number amounting to twenty-two. The first class therefore comprehended Genesis, Exodus, Leviticus, Numbers, and Deuteronomy; the second Joshua, Judges, with Ruth, Samuel, Kings, Chronicles, Ezra with Nehemiah, Esther, Isaiah, Jeremiah with Lamentations, Ezekiel, Daniel, and the twelve minor prophets; and the third Job, the Psalms, Proverbs, and Ecclesiastes, and the Song of Solomon. The whole passage is as follows:

'We have not an innumerable multitude of

books among us, disagreeing from and contradicting one another, but only twenty-two books, containing the records of all past times, which are justly believed to be divine. Five of them belong to Moses, which contain his laws, and the traditions concerning the origin of mankind, till his death. But as to the time from the death of Moses, till the reign of Artaxerxes king of Persia, who reigned after Xerxes, the prophets who were after Moses wrote down what was done in their times in thirteen books. The remaining four books contain hymns to God, and precepts for the conduct of human life. Our history, indeed, has been written, since Artaxerxes, very particularly; *but it has not been esteemed of equal authority with the former by our forefathers, because there had not been an exact succession of prophets since that time.* And how firmly we have given credit to these books of our own nation, is evident by what we do: for, during so many ages as have already passed, *no one has been so bold as either to add any thing to them, to take any thing from them, or to make any change in them;* but it is become natural to all Jews, immediately, and from their very birth, to esteem these books to contain divine doctrines, and to persist in them; and, if it be necessary, willingly to die for them.' *Josephus contra Apion*, lib. 1. sect. 8.

There is some variety of opinion, among the fathers, as to the classification of the books of Ruth, Job, the Song of Solomon, &c. at this time: but that all our present canon was contained in this ancient one is confirmed by the modern division of the sacred books among the Jews, who now enumerate twenty-four. The Law is still the first division, containing the five books of Moses: the Prophets are divided into the former and latter, with regard to the time when they flourished respectively. The former prophets containing the Books of Joshua, Judges, and 1 and 2 Samuel, and 1 and 2 Kings; and the two last being each considered as one book. The latter prophets comprise the writings of Isaiah, Jeremiah, Ezekiel, and the twelve minor prophets, whose books are reckoned as one. The Cetubim, or Hagiographa, consist of the Psalms, Proverbs, Job, Song of Solomon, Ruth, Lamentations of Jeremiah, Ecclesiastes, Esther, Daniel, Ezra and Nehemiah (reckoned as one), and 1 and 2 Chronicles, which also are reckoned as one. In the modern copies of the Hebrew Scriptures, the Song of Solomon, Ruth, Lamentations, Ecclesiastes, and Esther, are placed immediately after the Pentateuch, under the name of the five Megilloth, or volumes. This order, however, is not always observed.

We pass over minor divisions in this place, as well as the modern one, into chapters and verses, referring the reader for the latter to the word CHAPTER. The council of Trent having extracted from Luther's writings the position 'that no books should be reckoned a part of the Old Testament beside those received by the Jews,' (see Sarpi's History), have included, for no other reason that we can find, the Apocryphal books of Tobit, Judith, The Book of Wisdom, Ecclesiasticus, Baruch, 1 Maccabees, and 2 Maccabees, in the sacred canon. See our article АПОКРИФА.

A canon of the ancient Scriptures thus delivered

to us by those to whom were 'committed the oracles of God,' has been perpetuated by numerous MSS. preserved both by Jews and Christians with scrupulous care, and is happily distributed, in modern times, by the invention of printing, into every region of the globe. Hebrew MSS. of the Old Testament are extant in the form of rolls and square: the former being generally the shape of those found in the Jewish synagogues. To ensure their correctness, approved scribes have been from before our Saviour's time employed upon the task of transcribing them; and although superstition may have dictated a great portion of such rules as the following, the observance of them it is clear must have had an unquestionable tendency to preserve pure the sacred text. Carpzov and other critics tell us that the copies of the law must be transcribed according to the Jews (and these rules are said to be observed to the present day), from ancient MSS. of approved character only, with pure ink, on parchment prepared from the hide of a clean animal, for this express purpose, by a Jew, and fastened together by the strings of clean animals. Every skin must contain a certain number of columns of prescribed length and breadth, each column comprising a given number of lines and words. No word must be written by heart or with points, or without being first orally pronounced by the copyist: the name of God is not to be written but with the utmost devotion and attention; and previously to writing it, the pen must be washed. The want, or the redundancy of a single letter, the writing of prose as verse, or verse as prose, respectively, vitiates a MS. and when a copy has been completed, it must be examined and corrected within thirty days after the writing has been finished, in order to determine whether it is to be approved or rejected. The Hebrew text of these MSS., it should here be remarked, was originally transcribed without any breaks or divisions into chapters and verses, or even into words; so that a whole book, as anciently written, was in fact but one continued sentence, or rather word. When various readings therefore had arisen in the lapse of ages, the Jews had recourse to a canon or rule which they called masora or tradition, consisting of the most minute critical notices, which they placed in the margin of their copies of the text, and which tells us the different reading of the words which are redundant or defective; how often the same word is found at the beginning, middle, or end of a verse, the different significations of the same word; the agreement or conjunction of one word with another; what letters are pronounced, and what are inverted, together with such as hang perpendicular: they even took the number of each letter, for the Jews cherish their sacred books with such reverence, that they make scruple of changing the situation of a letter, which is evidently misplaced: supposing that some mystery has occasioned the alteration. They have likewise reckoned which is the middle letter of the Pentateuch, which is the middle clause of each book; and how many times each letter of the alphabet occurs in all the Hebrew Scriptures. See Walton's Prolegomena, c. viii.

Five exemplars have been more particularly celebrated among the Jews for their correctness, the Codex of Hillel, of Ben Asher, also called the Jerusalem, or Palestine Codex; of Ben Naphthali, or the Babylonian Codex; the Pentateuch of Jericho, and the Codex Sinai. But, in the seventeenth and eighteenth centuries, collections of Hebrew MSS. were made by Christian critics, which have placed a most minute acquaintance with every part of the sacred text within the power of almost every modern student. Rabbi Joseph Athias, in his celebrated edition of the Hebrew Bible, printed at Amsterdam 1661 and 1667, may be said indeed to have led the way to this good work. He was succeeded by Jablonski, in his Bible printed at Berlin 1699, by Vander Hooght in 1705, Opitz in 1709, J. H. Michaelis in 1720, and Houbigant in 1733.

In this last year Dr. Kennicott first announced to the public his important and extensive plan, for collating Hebrew MSS., in his First Dissertation on the state of the printed Hebrew text. Of his progress, and the circumstances that attended it, we have a detailed account in the *Dissertatio Generalis*, published with the second volume of his Bible. Having proposed ten years as the time which, he thought, would be necessary for collating the Hebrew and Samaritan MSS., he was enabled by his singular assiduity to fulfil his own expectations and those of the public. Patronised by his Majesty and a great number of liberal friends to the undertaking, both at home and in foreign countries, in the list of whom are no fewer than seven crowned heads, several princes, cardinals, archbishops and bishops, besides universities, public libraries, and many of the most eminent literati in various parts of Europe; and amongst whom a subscription of £10,000 was raised; Dr. Kennicott instituted various and extensive enquiries after MSS. at Constantinople, Warsaw, Venice, Bologna, Mantua, Pavia, Genoa, Lisbon, Geneva, Utrecht, Erfurt, Berlin, Stockholm, and Hamburgh. The numerous Hebrew MSS. of the latter place were collated by the celebrated Reimarus, who not only concurred in but applauded the undertaking. In the prosecution of this work, it was discovered, that the printed editions of the Hebrew Bible, which had been supposed to agree, and on the agreement of which the notion of the integrity of that text had been founded, very much differed from one another; and particularly, that the oldest editions agreed most with the oldest and best MSS., and the modern editions, with the latest and worst. As one proof of this, it is alleged, that the variations in the first edition (in 1488) from Van der Hooght (in 1705) amount to 12,000. In the year 1767 Dr. Kennicott derived great advantage from his own examination of the Paris MSS., both Hebrew and Samaritan, and from the labors of Dr. Gill, a celebrated Baptist minister, who collated for him all the passages quoted in the Talmud. An Hebrew MS., which once belonged to a synagogue at Jerusalem, was at this time purchased by his Britannic Majesty; and our author himself, hoping to obtain other treasures from the East, sent to Canton, and had nearly succeeded in procuring a MS. from the Jews at Cai-fong-fu, in the province of

Honan. But though he failed in China, he succeeded in America, and procured a complete Hebrew MS. from a Jew at New York. During the tenth and last year of this collation, eight Danish MSS. were sent to Oxford for the author's own examination, as were also six others from Toledo, by Dr. Bayer. Collations of other MSS. were furnished, at the same time, from Silesia, Cologne, Strasburg, Konigsburg, Upsal, Leyden, and Ireland. The indefatigable author, having thus collected materials for his noble undertaking, no less honorable to his country than to himself, proceeded to digest the variations, with which he was furnished, under their several books, chapters, and verses. During this operation, he formed a plan for a more complete scrutiny of the best MSS. through Europe, by sending some well qualified person to re-examine the MSS. already collated, and to examine the rest in passages of greater moment, and where success seemed at all probable. Mr. (afterwards Dr.) Bruns, a learned German, was selected for this embassy: and he was honored with letters from the secretaries of state here, to all our foreign ambassadors, as well as from the rulers of the two synagogues in London. The places in which he thus examined MSS. during a tour of three years, were Paris, Louvain, Cologne, Mentz, Worms, Mannheim, Nuremburgh, Augsbourg, Stuttgart, Carlsruhe, Strasburgh, Basle, Zurich, Berne, Geneva, Turin, Casale, Veruli, Milan, Genoa, Leghorn, Sienna, Rome, Florence, Bologna, Cesena, Modena, Reggio, Parma, Mantua, Padua, Venice, Udina, Goritia, Gradisca, Trieste, Vienna, Dresden, Leipsic, Erfurt, Jena, Dessau, Berlin, Hamburgh, Helmstadt, Cassel, Amsterdam, Utrecht, Leyden, and the Hague. The variations contained in nearly 700 bundles of papers, being at last digested, including the collections made by Dr. Bruns; and the whole, when put together, being corrected by the original collations, and then fairly transcribed into thirty folio volumes, the work was put to press in 1773; and both volumes, with the general dissertation, were finished in July 1780.

The writer of this paper cannot here forget the admirable peroration of one of Bishop Marsh's lectures at Cambridge, on the subject of the immense mass of readings, many of them very insignificant, thus obtained. 'You will be ready,' he observed, 'perhaps, with me to say, How many learned lives and what a vast sum of money has thus been expended in comparatively fruitless labor; for no controversy of importance either between Jews and Christians, or any of the sects into which they are respectively divided, has been affected by them. No: *it was worth all their lives and labors to know there was nothing to do!*'

Of the different printed editions of the Hebrew Bible it is not necessary for us here to speak particularly. Best amongst the best, of course where it can be obtained and duly appreciated, is Dr. Kennicott's work; to which may be added De Rossi's important supplement, published at Parma between the years 1784 and 1799, in five 18mo. volumes. The Psalter, issued about the year 1477, was the first book printed in Hebrew. It had the complete commentary of Rabbi Kimchi annexed. The Pentateuch was printed at

Bologna in 1482; and the Greater and Lesser Prophets followed in 1484 and 1486: the Hagio-grapha was first printed at Naples in 1487, and a copy of this edition is in the library of Eton College. At length the whole Hebrew Bible appeared complete from the Socini press in 1488. In 1494 was published that edition of the Hebrew Scriptures, at Brescia, from which Luther made his German translation: thus early uniting the invention of printing with the reformation of religion. This was also the basis of Bomberg's celebrated edition of the Hebrew Bible, and of the Complutensian, Antwerp, and Paris Polyglott versions. Bomberg's second edition, printed at Venice in 1525-6, is the basis of all our modern Hebrew Bibles. For BIBLES, POLYGLOTT, see the close of this article.

SECT. II.—OF THE FORMATION OF THE CHRISTIAN OR NEW TESTAMENT CANON.

Jesus Christ and his apostles adverted constantly to the Scriptures of the Old Testament as testifying of him; it is also remarkable that they quote sometimes the Septuagint, if not other versions of the ancient Scriptures. Thus they, in fact, adopt the Jewish canon, and set the seal of a direct divine approval upon it at the close of a far greater period of time from its commencement than has elapsed since that important and unequivocal sanction was given. But Christianity in primitive times was not a national religion, and was long before it even received public toleration; this will, in part, perhaps, account for the comparatively late date at which we find any public body or council who furnish us with the accredited canon of early Christians. Le Clerc observes upon this (H. E. ann. 100. num. iii. iv. et ann. 29. num. xcii.), 'We nowhere read of a council of the apostles, or of any assembly of the governors of Christian churches, convened to determine by their authority, that such a number of gospels, neither more nor fewer, should be received. Nor was there any need of it, since it is well known to all, from the concurring testimony of contemporaries, that these four gospels are the genuine writings of those whose names they bear, and since it is also manifest that there is in them nothing unworthy of those to whom they are ascribed, nor any thing at all contrary to the revelation of the Old Testament, nor to right reason. There was no need of a synod of grammarians to declare magisterially what are the works of Cicero or Virgil. In like manner, the authority of the gospels has been established by general and perpetual consent, without any decree of the governors of the church. We may say the same of the apostolical epistles, which owe all their authority, not to the decisions of any ecclesiastical assembly, but to the concurring testimony of all Christians, and the things themselves which are contained therein.' From the decree of the council of Laodicea, held A. D. 363, it appears that there were writings at that time already known by the title of canonical. In its last canon that council declares 'that private psalms ought not to be read in the church, nor any books not canonical, but only the canonical books of the Old and New Testament;' after which follows a catalogue or

enumeration of such books, in which are omitted all the apocryphal books of the Old Testament, and the Revelation in the New. The forty-seventh canon of the council of Carthage, assembled A. D. 397, ordains, 'that nothing besides the canonical Scriptures be read in the church.' The council's canon of the New Testament is the same as that now received. From the manner in which the epistle to the Hebrews is mentioned, there is reason to suspect, that it was not so generally received as the other thirteen epistles of St. Paul was. The 'Revolution' seems rather omitted from the Laodicean, than as an inspired book.

If we now advert, therefore, to the authentic writings of ancient authors, we shall find, that they had the same canon of the New Testament with that which is generally received to this day. Accordingly, the catalogue of canonical books furnished by Origen about A. D. 230; Eusebius, A. D. 315; Athanasius, A. D. 326; Cyril, A. D. 348 (the book of Revelation excepted); Epiphanius, A. D. 368; Basil and Gregory Nazianzen, and Amphiloehius, A. D. 370; Gregory Nyssen, A. D. 371; Jerome, A. D. 392; Augustine, A. D. 395; Rufinus, A. D. 397; Innocent I. bishop of Rome, A. D. 402; Isidore of Pelusium, and Cyril of Alexandria, A. D. 412; Cassian, A. D. 424; Prosper of Aquitaine, and Eusebius bishop of Lyons, and Sedulius, A. D. 434; Leo, bishop of Rome, and Salvan presbyter of Marseilles, A. D. 440; Dionysius, falsely called the Areopagite, A. D. 490; Gelasius, bishop of Rome A. D. 494; Andrew, bishop of Caesarea, A. D. 500; Facundus, an African bishop, and Arethas, A. D. 540; Cassiodorus, A. D. 556; Photius, patriarch of Constantinople, A. D. 858; Oecumenius, A. D. 950; Theophylact, A. D. 1070 (the Revelation excepted); and Nicephorus Callisti, A. D. 1325; agrees with that which is now received among both Catholics and Protestants, as well as in the Greek church.

It is worthy of notice here, that as Protestants we have thus the sanction of the entire Jewish church for our received canon of the Old Testament, and the rejection of the Apocrypha—and that of the Catholic as well as Greek church for all we hold to be the Christian Scriptures. A late futile attempt to bring forward an Apocryphal New Testament, is no further worth notice here than as giving us an occasion to refer to Mr. Horne's excellent examination of that performance, in his *Introduction to the Critical Study of the Holy Scriptures*, vol. ii. p. 687.

Very anciently, the New Testament consisted of two codes or collections, called gospels and epistles, or Evangelion and Apostolion. Tertullian distinguishes the gospels by the names of the writers, and calls them, our *Digesta* or *digests*, in allusion, as it seems, to some collection of the Roman laws digested into order. As to the order of the several gospels, it appears that, in Tertullian's time, they were disposed in the African churches according to the quality of the writers; those two occurring first which were written by apostles, and then the other two written by apostolical men. In some of the most ancient MSS. now extant, the order of the several evangelists is Matthew, John, Luke,

Mark. The order of the four gospels has been generally Matthew, Mark, Luke, John; then follow the Acts, St. Paul's Epistles, the Catholic epistles, and the Revelation. All the books of the New Testament were written in Greek, except the gospel of St. Matthew, who, according to St. Jerome, first wrote in Judea in the Hebrew language.

The MSS. of the New Testament still extant exceed in number those of any single classic whatever: more than 380 were collected by Griesbach alone. They have been dispersed over all parts of the globe; and several of them are upwards of 1200 years old. It is true that many of them are not entire; the most, in number, containing the Gospels; some the Gospel and Acts of the Apostles only; others the Gospel, Acts, and Epistles; and but a few the Revelation of St. John. Thirty thousand various readings were found in those collected by Dr. Mill, and 150,000 are said to be contained in the researches of Griesbach. Yet the most correct and accurate of the ancient classics are more depraved, mutilated and inaccurate. Not a hundredth part of these various readings makes any perceptible variation in the meaning of the sacred writers; evident verbal errors constitute by far the major part of them; substitutions of one word for another; or an immaterial transposition of words in a sentence. The most inferior of these manuscripts in the judgment of critics, does not pervert or resign a single article of the faith of Christians, or omit or alter one moral precept. The variations may indeed prove that God has not been pleased, by a standing miracle, to prevent those accidents affecting the sacred books which are never supposed to affect the credit or utility of other writings; but the general sense of the inspired penmen has been made more evident and unequivocal by these researches, and the flaws and imperfections thus discovered on the surface of the foundation stones, serve only to demonstrate the antiquity of our faith. The most important single MS. copies of the New Testament are, 1. The Codex Alexandrinus, see ALEXANDRINUS, where a specimen is furnished. 2. The Codex Vaticanus (these two contain also the Septuagint version of the Old Testament). 3. The Codex Cottonianus. 4. The Codex Bezae. 5. The Codex Ephreimi. 6. The Codex Claromontanus. 7. The Codex Argenteus. 8. The Codex Rescriptus of St. Matthew's Gospel, in Trinity College, Dublin. 9. The Codex Laudianus. 10. The Codex Boermeianus, &c. Michaelis has given a catalogue of 292, and bishop Marsh, his annotator, has added 197, to which they respectively refer; and to these celebrated works, — Wetstein's Proleg. N. T., bishop Marsh's Michaelis, and Mr. Horne's Introduction, already adverted to, we must refer the reader for further information on this topic.

The principal standard-text editions of the Greek New Testament are those of Erasmus, who gave the world the first printed edition of the entire New Testament in 1516; the Complutensian, forming the fifth volume of the Complutensian Polyglott, published in 1522; that of Robert Stephens, first published in 1546; and the Elzevir Greek Testament, published in 1624. The text in common use has been copied, with a

few exceptions, from that of Beza, who closely followed R. Stephens. Griesbach is the KenNICOTT of New Testament criticism; and the student who can possess himself of his and Wetstein's labors, is well furnished in this department of sacred literature; the best editions are Wetstein, 2 vols. folio, 1751; Griesbach, 2 vols. 8vo., 1796. Bishop Marsh says of the former 'He alone contributed more to advance the criticism of the Greek Testament than all who had gone before him: and this task he performed not only without support, either public or private, but during a series of severe trials, under which a mind of less energy would infallibly have sunk. In short, he gave a new turn to the criticism of the Greek Testament, and laid the foundation on which later editions have built.'

SECT. III.—OF THE PRINCIPAL VERSIONS OF THE BIBLE, ANCIENT AND MODERN.

Our observations, and the facts we have recorded thus far, principally relate to the original languages of the Bible. Long prior to the destruction of the Jewish polity, a most important version of the Old Testament in Greek, was executed among that ancient people of God. This is called the Septuagint, either because it was executed, as has been stated, by six approved scribes from each of the twelve tribes, at the request, as we are told, of Ptolemy Philadelphus; or because it was sanctioned by the Sanhedrim or Great Council of the Jews, who were seventy in number. Dr. Hody, '*De Bibliorum Textibus Originalibus*,' &c., who seems accurately to have studied its origin, states that this version was made by the Jews living at Alexandria, for the use of themselves and many thousands of their brethren, who were then settled in Egypt, and who, living among the Greeks, generally used the Greek language: that the whole was not translated at once; but the Pentateuch, about 285 years before Christ; and that when Antiochus Epiphanes forbade them to recite any part of the law, the Jews translated into Greek Isaiah, the following prophets, &c., for the use of the temple at Heliopolis and the Alexandrian synagogues. It is clear, from the number of Coptic words in this version, and several peculiar modes of expression, that this was a work undertaken either in Egypt, or by Jews much connected with that country; and the most probable opinion is, that the Pentateuch was executed in the joint reigns of Ptolemy Lagus, and his son Philadelphus; Joshua, not less than twenty years after the death of the latter; and the other books at subsequent unknown periods. We have alluded to those quotations of this version in the New Testament which fully prove it to have been well accredited among the Jews in our Saviour's time. Of the Septuagint version, the Alexandrian and Vatican codices are the most ancient transcripts; and there are four principal printed editions, from one or more of which all subsequent editions have been copied, viz. the Complutensian, the Aldine, the Vatican, and the Oxford, or Dr. Grabe's edition. Various other ancient versions are of considerable importance to the criticism and interpretation of Scripture. The Greek version of the Old Testament by Aquila, a Jew of the second century; another by

Theodotion, contemporary with Aquila; and a third by Symmachus, in the early part of the third century of the Christian era, may here be noticed. Origen mentions three others, whose ages and authors are unknown.

A *Syriac* version of the Hebrew Bible was made as early as the close of the first century, and is called the *Peschito*, or *Literal* version, from its close adherence to the original. It is of great value to the biblical critic; and was printed both in the Paris and London polyglots.

A *Coptic* version was made from the Septuagint, probably in the second or third, and certainly before the seventh century. Of this version only the Pentateuch and book of Psalms are printed. A *Sahidic* version of the Old Testament, i. e. into the language of Upper Egypt, made at this time, does not appear to have been published.

An *Ethiopic* or *Abyssinian* version was made from the Septuagint, it is supposed, about the second or third century. Only a few books and fragments of which remain.

The *Armenian* version was executed towards the close of the fourth, or early in the fifth century: the Slavonic, or old Russian, in the ninth century. The former was first printed in 1666, and the latter in 1519 and 1570.

A *Gothic* version was executed about the middle of the fourth century by Ulphilas, a bishop of the Mæso-Goths. Signor Mai has recently discovered in the Ambrosian library at Milan, some fragments of the books of Kings in this version, which had been lost.

An *Arabic* version of the Old Testament appeared about the tenth century; having for its translator R. Fuaḍiā Gaon; but the Pentateuch and Isaiah are all that remain of it. Other Arabic translations are extant, but of little antiquity or authority.

Several early *Persian* versions of the Septuagint seem to have been made, but most of them remain in MS. The translation of the Pentateuch, printed in the London Polyglott, was executed by a Jew in the eleventh or twelfth century.

The *Italic* was an ancient Latin version of the Septuagint, in common use in St. Jerome's time; a revision of it was undertaken by him, and gradually introduced throughout the Western church, until at length Pope Gregory the Great gave it the sanction of the popedom. It is this revision of the *Italic* version that now forms the well-known *Vulgate*, and which the council of Trent has declared to be authentic, and commanded to be used in all sermons, expositions, &c. It alone, therefore, is used in the Romish church; but some passages of the ancient *Vulgate* are left in the Missal, and the Psalms. The two principal editions of the *Vulgate* are those of popes Sixtus V. and Clement VIII. The former was printed in 1590, after the most ancient MSS. and best printed copies had been collated, as it was said, and the most learned men assembled out of all the nations of the Christian world: the pope himself presiding over the whole, and correcting the proof sheets. This edition was then published with a tremendous excommunication of every person, who should presume ever afterwards to alter the least particle of it.

The other edition was published in 1592, by Clement VIII; but so different from that of Sixtus, as to contain two thousand variations, some of whole verses, and many others clearly contradictory in the sense; yet this edition is also pronounced authentic, and enforced by the same sentence of excommunication with the former.

Modern versions are so multiplied, and are increasing so rapidly in various quarters, that we can only attempt to present the reader with a list of the principal ones:—

I.—IN THE LANGUAGES OF MODERN EUROPE.

The New Testament was first printed in	The Old Testament in	In the Language or Dialect.
1522	1478	Spanish (Valencian.)
1526	1536	German (Luther's.)
1534	1534	English (Tindal's)
1534	1535	French.
1524	1541	Swedish.
1556	1550	Danish.
1519	1560	Dutch.
1525	1562	Italian.
1548	1569	Spanish.
1553	1581	Russian.
1571	1529	Helvetian.
1567	1533	Lower Saxon.
1574	1642	Finnish.
1638	1642	Croatian
1648	1588	Basque.
1666	1588	Welsh.
1602	1589	Hungarian.
1685	1584	Wendish.
1685	1584	Icelandic.
1686	1588	Pomeranian.
1727	1596	Polish.
1748-63	1593	Bohemian.
1767	1638	Modern Greek.
1712	1648	Wallachian.
1781	1657	Romanese.
1769	1660	Lithuanian.
1820	1666	Turkish.
1820	1685	Irish.
1821	1685	Livonian.
1821	1689	Esthonian.
1820	1686	Esthonian.
1821	1727	Dorpatian.
1821	1719	Grisons.
1821	1728	Upper Lusatian.
1821	1755	Lapponic.
1821	1772	Manks.
1821	1802	Gaelic.
1821	1748-53	Portuguese.
1821	1783	Italian.
1821	1776	Spanish.
1821	1793-4	Maltese.
1821	1820	Samogitian.
1821	1821	Judæo-Polish.
1821	1821	Modern Russ.
1821	1821	Karelian dialect, (St. Matt.)
1821	1821	Mordwassian (4 Gos.)
1821	1821	Tcheremissian, do.

II.—IN THOSE OF MODERN AFRICA AND AMERICA.

The New Testament was first printed in	The Old Testament in	In the Language or Dialect.	The New Testament was first printed in	The Old Testament in	In the Language or Dialect.
		AFRICAN.	1771-80	Gen. Ex. and Lev.	Cingalase.
			1820	1771-83	
Matt. } 1816 } 1822 }	. . .	Bullom.	1668	1731-33	Malay.
	. . .	Amharic dialect.	1809-14	1815-21	
		AMERICAN INDIAN.	1811-	1815-20	Chinese.
		Virginian.	13-16		
1661 } 3 Ep. John } 1818 }	1663	Delaware.	Matt. & John		Formosan.
John } 1709 } Matt. }	Psalms } 1709 }	Indian Massachuset.	1661		
Mark and John } 1731 } 1804 }		Mohawk.	1813	Psalms } 1815 }	Tartar.
1809- } 13-19 }	. . .	Esquimaux.	1820		Orenburgh-Tartar.
1799 }	. . .	Greenlandish.	1815-20		Calmuc-Tartar.
		WEST INDIAN.	Matt. and Luke		Mongolian-Tartar.
1781 }	. . .	Creolese.	1815		
			Matt. Luke and John	1743	Georgian.
			1818-21		Otaheitean, or Tahitan.

III.—IN THE LANGUAGES OF MODERN ASIA.

The New Testament was first printed in	The Old Testament in	In the Language or Dialect.
1816	. . .	Arabic.
1815	. . .	Persian.
1818	{ Gen. & Lev. } 1822 }	Pushtoo.
4 Gosp. } 1816 } 1808 }	. . .	Bulocha.
1811	1811-18	Sanscrit.
1819	{ Pent. } 1818 }	Sikh, or Punjabee.
1819	. . .	Assamese.
1819	. . .	Kashmiree.
1819	. . .	Wutch, or Multanee.
1820	. . .	Guzerattee.
1819	. . .	Bikaneer.
1818	. . .	Kunkuna.
1822	. . .	Maruwar.
1822	. . .	Oojvinee.
1822	. . .	Bundelkundee.
1822	. . .	Nepaulese.
1807	{ Pent. and Historical Books, } 1812-15 }	Mahratta.
1812	{ Ditto, } 1806-12 }	Hindee.
. . .	{ Psalms } 1747 }	Hindoostanhee.
1808-14	. . .	Bengalee.
1801	1801-5	
1807	1809-14	Orissa.
1820	. . .	Canarese.
1715	1723-28	Tamul.
Mark } 1812 }	. . .	Telinga, or Teloogoo.

The above have, of course, been in many instances made by missionaries, and, of the Asiatic Translations, the major part by the Baptist missionaries at Serampore. See BAPTIST MISSION.

BIBLES, POLYGLOTT.—Polyglott Bibles contain the sacred text and versions of the Scriptures in various languages. In 1501 Aldus Manutius the elder, a celebrated printer, first projected an undertaking of this kind, in collateral columns of Hebrew, Greek, and Latin; only one sheet however was printed. In 1516 appeared at Genoa the Pentaglott Psalter of Agostino Justiniani, bishop of Nebo: it was in Hebrew, Arabic, Chaldee, Greek, and Latin, accompanied with glosses and scholia. In 1518 John Potken published at Cologne the Psalter in Hebrew, Greek, Latin, and Ethiopic.

The *Complutensian Polyglott*, so called from the Latin name of Alcalá in Spain, where it was printed, was the first polyglott edition of the whole Bible. This celebrated work was begun in 1502, and though completed in fifteen years, costing cardinal Ximenes (see *ALCALÁ*) the sum of 50,000 ducats, it was not published until 1522. It is complete in six folio volumes. The first four contain the Old Testament in Hebrew, Greek, and Latin, with the Chaldee paraphrase at the bottom of each page: the fifth is occupied with the New Testament in Greek and Latin; and the sixth with critical apparatus.

The *Antwerp*, sometimes called the Spanish and Royal Polyglott, was published in 1572 by Christopher Plantin of Antwerp, under the patronage of Philip II. of Spain. The Old Testament is printed in Hebrew, Greek, Latin, and Chaldee; and contains, beside the Complutensian versions, a Chaldee paraphrase left by cardinal Ximenes, in the public library at Alcalá. The whole work forms eight vols. folio; and has a Syrian version of the New Testament, together with the Latin version of S. Pagninus, revised by Arius Montanus, the presiding editor. The first five contain the Old and New Testaments, and the three last are filled with lexicons, grammars,

&c. Only 500 copies were printed; the greater part of which being lost in a voyage to Spain, complete sets are very rare.

The *Paris Polyglott* of 1645, printed by Antoine Vitré, is in ten folio volumes, and is a magnificent work. It was executed at a ruinous expense by a M. Le Jay, and contains all that is inserted in the Complutensian and Antwerp Polyglotts, with the addition of the Samaritan Pentateuch and its version. It has no critical apparatus.

The *London Polyglott* of bishop Walton was published in 1657 in six folio volumes. The first volume contains a very extensive critical apparatus (the Prolegomena itself, written by Bishop Walton, being a treasure of sacred criticism), and also the Pentateuch. The second and third volumes comprise the remaining books of the Old Testament; the fourth the Apocrypha, and a threefold Targum on the Pentateuch, viz. two in Chaldee, and one in Persic. The fifth the New Testament. The sixth contains various readings, and critical elucidations of the whole. The Pentateuch of this most noble work is in Hebrew, Greek, Syriac, with the Chaldee paraphrase, Hebræo-Samaritan, Samaritan, and Arabic, accompanied with the Latin Vulgate, and six other Latin versions of the various oriental ones. The Samaritan Pentateuch is the only part of the Old Testament in that language. The other volumes of the Old Testament are nearly similar, only that there is an Ethiopic version of the Psalms. The New Testament exhibits the Greek, Syriac, Persic, Vulgate, Arabic and Ethiopic versions, at least as far as the end of the Gospels, for here the Persic closes, and separate Latin versions accompany all the oriental ones. This work is not considered complete without the Lexicon Heptaglotton, published by Dr. Edmund Castell at London, in 1669, in two volumes folio. It contains a joint lexicon of the Hebrew, Chaldee, Syriac, Samaritan, Ethiopic, and Arabic languages, together with a separate lexicon of the Persic, and brief grammars of the several tongues.

The *Leipsic Polyglott* of 1750 is in three vols. folio, edited by C. Reineccius. The Old Testament is in Greek, Latin, and German; the New, in ancient and modern Greek, Syriac, and German.

Our account of these important works must

not close without noticing the spirited attempt of a respectable bookseller of this metropolis to add a second London Polyglott to the foregoing list. In 1816 Mr. S. Bagster commenced his 4to. and 8vo. Polyglott, comprising the Hebrew text of the Old Testament, from Van der Hooght's edition, the Samaritan Pentateuch from Dr. Kennicott's edition of the Hebrew Scriptures, the Septuagint Greek version of the Old Testament from Bos's edition of the Roman or Vatican text, the Latin Vulgate, and the authorised English version. The New Testament is given in Greek from Dr. Mill's edition, with the whole of the important various readings from Dr. Griesbach's edition, printed at Leipsic in 1805; and is accompanied by the Peschito, or old Syriac version, the Latin Vulgate, and the authorised English version. The Apocalypse, and such of the Epistles as are not found in the old Syriac, are given from the Philoxenian or new Syriac version. The text of the Latin Vulgate version is taken from the edition of Pope Clement VII. The authorised English version is accompanied with the marginal renderings, references, &c. The Hebrew of the 4to. copies is pointed; the 8vo. copies may be procured both with and without points. Price of the 4to. copies £5. 5s.

After a most calamitous fire which happened in 1822, destroying an entire impression of a Polyglott Bible in the modern languages, Mr. Bagster was induced to project a small folio Polyglott Bible to be completed in one volume, which he says will comprise the original Hebrew text, and the Greek Septuagint version of the Old Testament; the original Greek Text, and the venerable Peschito or old Syriac version of the New Testament, the Samaritan Pentateuch, the Vulgate Latin, the authorised English version, Luther's German version, Ostervald's French version, Diodati's Italian version, and P. Scio's Spanish version. The types from which this Polyglott is printed are entirely new, and together with the paper of singular beauty. Mr. B. has lately added the modern languages to his 8vo. Polyglott; which, complete, is sold at £7. 3s.

For a more particular account of the several translations of the Bible into the languages of the British isles, see ENGLISH, IRISH, and WELSH BIBLES.

BIBLE SOCIETIES.

BIBLE SOCIETIES.—The most striking characteristics of the times in which we live, are the voluntary religious associations to which they have given birth. Among these it will be readily admitted that Bible Societies are the first in magnitude and importance. How they arose? what has been their progress? and what will be their probable results? are questions which the patriot, the philanthropist, and the Christian, must frequently revolve. Indeed they have been discussed by men of all parties in politics and religion; and every variety of talent has been brought to their elucidation. In tracing their origin, the philosophical enquirer cannot fail to

be struck with the felicitous combination of matured protestantism, and the unrestrained enjoyment of religious freedom, to which these institutions are mainly indebted for their existence. When the schism was first made, which broke the unity of the Catholic Church, and dissolved the charm of its infallibility, it was predicted that endless divisions among the reformed would be the disastrous consequence—and that thus the new religion would be exterminated by its own violence; or that the refractory sovereigns and kingdoms, which had thrown off their allegiance to the holy pontiff, would be driven, of necessity, to take refuge once more in his paternal bosom.

And, it must be confessed, that the religious distractions and civil commotions which marked the early progress of the Reformation, and which, like heterogeneous elements, frequently threatened an explosion fatal to the existence of society, contributed not a little to encourage a belief that the prediction would be realised. It was the interest of the Papal See to extend and to strengthen this conviction; while protestant rulers, in church and state, unwittingly lent themselves to support this political manœuvre of their arch adversary. Hence division, discord, and anarchy, became the hereditary reproach of Protestants—while it was bruited throughout the earth that the internal peace which universally prevailed, where the pope's authority was acknowledged, arose from that unity of faith which, in all Catholic states, was the bond of perfectness. It was reserved for later generations to discover that this loudly-boasted tranquillity was but the crouching of ignorant and besotted slaves at the feet of civil and ecclesiastical despotism; and that the convulsions which so long and so fearfully distracted the repose of protestant Europe, were the natural consequences of a mighty struggle between light and darkness—between freedom and tyranny. The ecclesiastical Revolution, so suddenly effected by Luther, was the first dawn of liberty to Europe. It was, however, but a spark, feeble and vacillating, and sometimes on the point of extinction. It was long before it shone forth with a lustre, which bespoke the divinity of its origin, and the indestructibility of its nature. The demons and the darkness united to smother it in its birth, and retired with that reluctance with which conquerors, in a thousand battles, at last yield up victory and life together. It was not till the principles of protestantism began to be well understood by the Protestants of England, and till they had worked out a good degree of civil liberty for their country, that its blessings could be very largely distributed, or extensively enjoyed. Its first introduction among us was very inauspicious. It came merely as the engine of state policy, and was forced into an unnatural alliance with the lust and wilfulness of the most detestable tyrant that ever outraged the decencies of life, and insulted the patience of mankind. 'The defender of the faith,' not contented with the flattering distinction of being a royal and favored son of the church, resolved to usurp the authority of its infallible head, and to subordinate to himself a hierarchy of his own, surrounded with the mists and darkness of popery. The nation was at the first scarcely conscious of any change—they retained almost every thing of popery but the name—the monarch was as absolute as the pope, but not quite so crafty. The twilight of knowledge awakened the thrill of gladness in the hearts of a distinguished few who had been waiting for the morning, and who thought they saw, notwithstanding the gloom which yet prevailed, the indication of its approach. Still, protestantism had but an incipient existence. It was during the next reign that it seemed to emerge into conscious being; and then it was that freedom to think and judge in matters of religion, produced extravagancies and diver-

sities of opinion—for this, Protestants as they were, the ecclesiastical rulers were not prepared; and they fell upon the expedient, so constantly resorted to by the church which they had recently abandoned, namely, to extinguish heresy by the massacre of heretics. There was no civil freedom then to throw its ægis over the virtuous beings who had violated no law, and who, therefore, deserved no punishment: and they were committed to the flames. Popery returned with vengeance, and executed with fiendish satisfaction the *lex talionis* on the protestant murderers. For more than half a century, the protestant faith triumphed; but it was confined within the limits of the hierarchy, and under the absolute control of the sovereign. It had no toleration, and therefore could exercise no charity. The clergy condemned, and the queen executed, all who dared to question the infallibility of either. In the subsequent reigns of James and the first Charles, the spirit of protestantism began to work. The translation and circulation of the Scriptures induced multitudes to read them; and the natural consequence was a diversity of opinions, and at length a variety of sects. Unhappily, the notion of an exclusive church, and of absolute uniformity in matters of faith, which some of the early reformers imported from Rome, was the reigning dogma of them all; and hence the idea of mutual extermination commended itself to each of them as a sacred duty. Of course, the party that could wield the sword of power, and second its anathemas with the vengeance of the state, had the greatest facilities for the performance of their duty, and enjoyed, in the highest degree, the pious luxury of persecuting, even unto death, their unoffending fellow-subjects. It was not possible that such a state of things could long continue. Either ecclesiastical despotism must triumph in the annihilation of every sect but its own, or civil freedom must result from the struggles of the contending parties. The balance was long held in doubtful vacillation; but the religious spirit proved at last too mighty for the policy and the power that aimed to destroy it. The conflicts which mutual persecution provoked and inflamed, ended, happily for the protestant cause in Europe, in laying the foundation of a civil constitution, which, in its progress to perfection, will not fail to secure equal rights to all good subjects, whatever be their religious creed or ecclesiastical discipline. The throne, while the 'baby Charles' (the endearing terms in which the Royal Solomon used to speak of the heir apparent—the martyr of blessed memory) sat upon it, was placed as a barrier against the tide of religious freedom, then mightily setting in, and which would have moved on in its majestic course, a confluence of undisturbed and tributary streams, enriching and beautifying all around it, but for this unnatural and most impolitic obstruction. What was the consequence? pent up and confined, it became an impetuous and boiling torrent, bearing away, with irresistible fury, the monarch, and every vestige of his proud regalia. The Protectorate was a season of light, and to whatever desperate expedients the head of the commonwealth was impelled, by the necessity of circumstances, the

principles of general freedom were industriously sown. Like the dragon's teeth of Cadmus, they came up armed men, at the period of the glorious Revolution, and drove into merited exile the last of the Stuarts. Then it was that the rights of conscience were expressly recognised by the law of the land; and freedom of worship was granted to all, without exception, on condition, however, that the seceders from the dominant church should submit to certain civil privations and disabilities. This change, though not in all respects what a liberal and just policy ought to have devised, and though it left something of the wormwood and the gall of a persecuting spirit to embitter religious differences, was yet fraught with the happiest consequences; which, during the lapse of nearly two centuries, have been accumulating the richest benefits upon the nation. Proscriptions, fines, and imprisonments, have given place to controversy, rivalry, and charity. The bigots of all parties content themselves with exuding harmless venom: the state has extracted their teeth, and they cannot bite. Too many of the clergy of different churches are still 'good haters;' but they can now only imprecate the vengeance they were formerly accustomed to inflict: and it is the prayer of the righteous only that availeth much. The haughty and exclusive assumption of the church is consistently abandoned by Protestants, and is claimed only by the mother of harlots. The Church of England, in her article on this subject, speaks the language of every Christian community. She claims indeed pre-eminence, and this is cheerfully conceded to her learning, her wealth, and her numbers; but the churches of dissent have also 'a local habitation, and a name.' The spirit of emulation which has long prevailed among both the established and the protected churches, is of the right kind, and has, among them all, promoted, in a very eminent degree, the interests of true religion. Every extension of toleration, every step in advance towards perfect freedom, has allayed the animosities of party, and in proportion as Christians of various denominations have been brought upon equal terms into civil contact with each other, mutual good will, brotherhood, and charity, have been the happy consequences. The most perfect state of society is where the right of private judgment, in matters of religion, is equally claimed and conceded through all the extent of its probable and practical results; and where the civil government extends equal protection to all who exercise that right, whether they conform to the creed of their rulers or dissent from it. To this state public opinion at least was rapidly approximating at the period when the British and Foreign Bible Society began its splendid and marvellous career; nor could it have obtained existence among us under different circumstances. If there had been less of liberal feeling and sentiment in the British churches, or less of tolerance in the government, or less of freedom in the spirit of our laws, the plan of such an institution could never have been conceived; or, if conceived, it must have appeared altogether absurd and impracticable.

But the more proximate and immediate causes

which led to its formation, may be traced to the moral wants of the people, created by that system of universal instruction, which had, for several years, been in active operation. To which we may likewise add the zealous efforts of the clergy, both in and out of the establishment, to diffuse throughout the land the spirit and the principles of religion. A reading population, and a population awakened to a powerful conviction of the truth and value of the Holy Scriptures, must, of necessity, produce an unusual demand for the sacred volume; and, at least, multitudes would be thus prepared to give it a prompt and cordial welcome. At this period, too, the spirit of active and inquisitive benevolence was abroad—the moral wants of the British empire were not contemplated with a partial or an exclusive eye: but commercial energy and missionary zeal had laid bare the forlorn and wretched condition of the greatest part of Christendom, and of the whole pagan world; while facilities of communication were opened by these means with every quarter of the globe. All these circumstances will account for the rapid growth of the Bible Society, and for the grand principle on which it is founded, and on which its usefulness, its permanency, and prosperity depend. The object, namely, the circulation of the Scriptures, was pressed upon the attention of the original founders of the institution by an occurrence of a very trivial nature; then the magnitude of that object, as embracing the whole habitable world, impressed them with the conviction that it could not be achieved on ordinary principles, nor by ordinary means. The principles and the means required they found in the catholicism which prevailed among British Protestants; and in the divine inspiration and sufficiency of the Scriptures themselves, on which that catholicism might erect its noble superstructure of spiritual benevolence.

At the time the project of this great society was contemplated, the sources in existence, from which a distribution of the Scriptures might be expected, were few, and certainly, from their constitution, inadequate to supply the biblical necessities of the world. The principal societies which made the dispersion of the Scriptures a collateral or an exclusive object, are the following. The figures subjoined denote the year in which each was founded:—

The Society for Promoting Christian Knowledge	1696
The Society for the Propagation of the Gospel in Foreign parts	1701
The Society in Scotland for Propagating Christian Knowledge	1709
The Society for Promoting Religious Knowledge among the Poor	1750
The Bible (now the Naval and Military Bible) Society	1780
The Society for the Support and Encouragement of Sunday Schools	1785
The French Bible Society	1792

For an account of the principal operations of these associations, see CHRISTIAN KNOWLEDGE, SOCIETY FOR PROMOTING,—GOSPEL, SOCIETY FOR PROMOTING THE,—NAVAL AND MILITARY BIBLE SOCIETY, &c. &c.

That these institutions existed, was an evidence to every reflecting mind, that something similar, but of far greater magnitude, would soon be required; and that the Holy Scriptures, flowing in these comparatively narrow and confined channels, would never satisfy the desires which would thus be excited for their universal diffusion; and it was, in fact, a serious dearth of this kind in the principality of Wales, which none of the existing Societies could supply, that was the direct cause of originating that which by way of eminence we very justly denominate THE BIBLE SOCIETY. From the year 1787 to the year 1793, the most affecting and earnest appeals were made in behalf of the poor of the Principality to obtain for them a supply of Welsh Bibles. The Society for promoting Christian knowledge, the only source whence the necessary supply could be obtained, turned a deaf ear to every complaint and remonstrance; and negociation, however kept open and on whatever terms maintained, altogether failing, was at length abandoned in despair. In 1796, however, this venerable Society, impressed with a sense of the necessity for some further exertions, and believing at last the reasonableness of the pleas urged in favor of a new edition of the Scriptures in the Welsh language, passed an order at its board for the printing of 10,000 of the Welsh Bible, Common Prayer, and singing Psalms, with 2000 extra Testaments; and in 1798 this order was executed.

It was long hoped by the friends of humanity and religion, that the facts disclosed by the correspondence of the Society for Promoting Christian Knowledge with the clergy and gentry of the Principality, and the certainty of their funds being increased to any amount which the exigency of the case would require, of which they could not entertain a reasonable doubt, would have induced that Society, to make another effort. But the inhabitants of Wales having looked in vain to this quarter, in the month of December, 1802, the Rev. T. Charles, B. A. of Bala, a minister of the Established Church, a man of zealous piety, and indefatigable exertion, and whose habits and connexions rendered him intimately familiar with the spiritual wants of his countrymen, being in London; proposed a contribution in aid of a plan for printing and distributing the Scriptures among them. On the seventh of that month, the subject having been introduced by Mr. Joseph Tarn, the present assistant secretary and accountant of the British and Foreign Bible Society, in a circle of friends who had met to transact a different business, Mr. Charles proposed his suit in behalf of his countrymen: describing the want of Welsh Bibles, and the failure of all attempts to obtain them in the usual channel, and urging with importunate earnestness, the necessity of resorting in this painful extremity to new and extraordinary means.

This proposition gave rise to a conversation of some length. In the course of which it was suggested, that as Wales was not the only part of the kingdom in which such a want as had been described might be supposed to prevail, it would be desirable to take such steps as might be likely to stir up the public mind to a general disper-

sion of the Scriptures. This suggestion proceeded from a dissenting clergyman, the Rev. J. Hughes, one of the Society's present Secretaries, and was warmly encouraged by the rest of the company, who, with the proposer, were members of the Religious Tract Society, and who had met to transact the business of that institution. To this casual conversation we are to trace the dawn of those measures, which, expanding with time and progressive discretion, issued at length in the proposal and establishment of the British and Foreign Bible Society.

Mr. Hughes was desired to prepare in writing such an address as might contain, in a more digested form, the substance of his unpremeditated observations. In the mean time, the subject was introduced to the notice of various individuals of distinguished reputation for piety and benevolence. Among these was William Wilberforce, Esq. who, at a private interview, conferred with the parties who had solicited his advice; and furnished such hints as his enlightened mind and liberal heart would be likely to suggest. A similar communication was made to Charles Grant, Esq. and attended with a similar result.

The Rev. C. F. A. Steinkopff, minister of of the German Lutheran church in the Savoy, and one of the Society's present secretaries, voluntarily tendered his services to promote the design, in the course of a journey which he was about to make to the continent of Europe. His offer was thankfully accepted, and he was accordingly requested to enquire particularly into the want of the Scriptures in such places as he should have occasion to visit. Similar enquiries were directed to be promoted in Ireland, and in other parts of the United Kingdom.

In the course of May 1803, Mr. Hughes presented an impression of his Essay. The conclusion is in a spirit which has from the commencement to the present time so truly characterised the society, and is in itself so complete a refutation of all those calumnies heaped upon the motives of its patrons and supporters, that the most brief notice of the institution would be defective, if it were not introduced to adorn and to hallow the page. 'God puts honor upon mortals by employing their agency in the fulfilment of his promises, and in the promotion of his glory; and if those of his designs may be considered as indicating an approach towards maturity, which most unite and engage his servants; is it not probable that knowledge and salvation will follow close in the train of those labors, to which, with respectful deference, we now call the attention of the Christian world. May we not therefore look forward to a large meeting of our fellow-Christians, whose unanimous and loud voice shall encourage us to go on and do all that is in our hearts? But should we in this respect be disappointed, our labor will not be regretted, if it serve in a few instances to draw more attention to the Bible; if it contribute to the strength of societies already established; and especially if it promote the spirit of distribution among those, who, having long regarded the truth as it is in Jesus, have yet done little toward enriching the world with its

treasures. Conscious, however, of having discharged a duty, and encouraged to expect some favorable result, we here conclude, leaving our exhortations with the consciences of men, and our prayers in the bosom of God.'

Copies of this Essay were industriously circulated, and it cannot be doubted but that the public mind was thus prepared to entertain the project so clearly stated, and so powerfully supported. It was not, however, till the month of January, 1804, that the measures for carrying it into effect had attained a sufficient degree of ripeness in the estimation of its conductors. To justify the consideration of steps for carrying them into actual execution. A plan which had been sketched in the preceding year now underwent revision, and the title was altered at the suggestion of the late Reverend and benevolent John Townsend (the founder of the Deaf and Dumb Asylum), from 'A Society for promoting a more extensive circulation of the Holy Scriptures, both at home and abroad,' the form in which it originally stood, to the definite and more comprehensive designation of THE BRITISH AND FOREIGN BIBLE SOCIETY. Things being thus far advanced, it was determined to convene a public meeting: a circular address was accordingly drawn up, which unfolded the plan, so far as it was at that time matured, and announced a public meeting to be held at the London Tavern, on Wednesday the 7th of March, 1804. It was subscribed by the following names:

Granville Sharp	Richard Lea
William Alers	Alexander Maitland
Joseph Benwell	Samuel Mills
Henry Boase	Joseph Reyner
Robert Cowie	Herman Schroeder
Samuel Foyster	Christopher Sundius
Joseph Smith Gosse	George Wolff.

The future secretary and historian of the Society, Mr. Owen, received from Mr. Hughes two copies of the Essay on the Excellence of the Holy Scriptures, one for his own use, and the other he was requested to present to the bishop of London (Porteus), to whom he was chaplain, and to solicit his lordship's patronage to such an institution as that Essay was designed to recommend. With part only of this request did he comply—he merely presented the pamphlet; and beyond that, as he candidly observes, 'he neither felt himself authorised nor inclined to proceed.' So completely, indeed, had the presumption of its impracticability taken possession of his mind, that he is not aware of having given the plan any further consideration, till the receipt of the circular revived the recollection of it; and the name of his intimate and valued friend, Granville Sharp, at the head of the signatures, determined him to attend the meeting, at which its merits were to be publicly and solemnly discussed.

By the provisional committee Mr. Owen was requested to move the series of resolutions which were designed to form the basis of the proposed society. 'He rose,' he says, 'by an impulse which he had neither the inclination nor the power to disobey. Surrounded by a multi-

tude of Christians, whose doctrinal and ritual differences had for ages kept them asunder, and who had been taught to regard each other with a sort of pious estrangement, or rather of consecrated hostility; and reflecting on the object and the end which had brought them so harmoniously together; he felt an impression which the lapse of more than ten years has scarcely diminished, and which no length of time will entirely remove. The scene was new: to him it appeared to indicate the dawn of a new era in Christendom; and to portend something like the return of those auspicious days, when 'the multitude of them that believed were of one heart and of one soul;' and when as a consequence of that union, to a certain degree at least, 'the word of God mightily grew and prevailed.' After giving utterance to these feelings, in the best way he could, Mr. Owen moved the resolutions which had been consigned to his care, which were unanimously and enthusiastically adopted. The institution was considered as established, and more than £700 were immediately subscribed.

THE BRITISH AND FOREIGN BIBLE SOCIETY having been thus established, Mr. Owen felt it important to make an early communication of the fact to his diocesan and patron, the amiable and pious bishop Porteus. In this communication he availed himself of the confidence with which he knew the bishop honored him, and entered into a minute detail of all the circumstances which at the recent meeting had deeply impressed his own heart; he particularly described the comprehensive principle on which the society was constituted, and the spirit of candour and liberality in which it had been formed, submitted to his lordship that the challenge so liberally given on the part of the dissenters, ought on the part of the church to be as liberally accepted; and expressed his conviction that it was equally expedient for the honor of the church, and for the accomplishment of the society's object, that the ministers and members of the establishment should give it their decided countenance and support. After a reasonable delay, the bishop replied to this communication in very satisfactory and encouraging terms. In the course of his reply, his lordship distinctly stated that he very much approved the design of the Bible Society; and that he had mentioned it to several of his friends who also approved of it.

'The Committee,' says Mr. Owen, 'which was nominated at the formation of the society, and on which the executive measures had devolved, consisted of individuals highly respectable, and conscientiously devoted to the service of the institution. But the diversity of religious sentiment, connexion, and denomination, by which they were characterised, may naturally be supposed to have thrown serious obstacles in the way of that mutual understanding which is the only sure basis of a sincere and steady co-operation. Never, perhaps, before, were thirty-six persons brought together for the prosecution and attainment of a common purpose, whose views and habits and prejudices exhibited a greater and more unpromising variety. Strangers in many

instances to each other's persons, and not a little disaffected to each other's religious systems, they had to struggle against feelings, to which time and mutual alienation had given in a manner the authority of principles; and to balance the value of the object itself against that of the minor considerations which must be sacrificed in order to attain it. It is not therefore to be wondered at, that, in the outset of their proceedings, a committee thus composed should experience no ordinary embarrassment. A sense of propriety dictated that parties so strangely diversified should mutually advance towards each other with wariness and reserve: and it is natural to conclude, that in the exercise of this caution they should occasionally betray those emotions of jealousy which served to demonstrate how much they were indebted to the influence of the Bible for effecting their approximation to a common standard.'

In this important stage of its progress, when the committee, previously to a general and public meeting, were called upon to make their final arrangements, not only as to elementary principles, but as to detail, and every part of the practical machinery of the infant institution entrusted to their hands, the great questions which demanded their most serious attention and ultimate determination, related

First, To the simple consideration of what they were to distribute.

Second, As the society consisted of a union of all denominations of Christians, to the proportion in which each should be represented in the committee.

Third, To the secretariat, involving the same delicate question with that of the constituent principle of the committee; and

Fourth, To the presidency and patronage.

1. As to the first, namely, what they were to distribute, the founders of the society, without discussion, or even distinct recognition, had assumed certain principles which they took for granted were universally maintained by Protestants, and on which they were universally agreed, however diversified their sentiments on other subjects: these were the divine and exclusive authority of the Scriptures in matters of religion; the capacity and consequent obligation of all men to search the Scriptures for themselves, as the only inspired media through which to obtain the knowledge of salvation; that all men who have derived their religion from the Holy Scriptures, however they may differ in their religious opinions, may with equal confidence appeal to the divine volume as the only standard of their faith and practice; that it is the duty of all men who profess religion themselves, and who derive that religion from the Scriptures, to circulate those Scriptures as the only authoritative and infallible means of conveying religion to others. These principles are all included in the establishment of a Bible Society: but they are instantly violated, if the integrity, purity, and completeness of the Scriptures be in any measure sacrificed; they apply to the Bible, and the Bible alone; to the Bible in all its parts,—to the entire volume, without the smallest deduction or addition. The great question then to be determined

by the new society which assumed such principles as their basis, was, whether any version of the Scriptures existed, in the truth and fairness of which all the various denominations of Christians, who were to unite in the circulation, perfectly agreed. Happily the authorised version of the English Bible, which was in the hands of all, and which all equally esteemed, presented itself; and to guard against the possibility of its deterioration, or of its ever becoming the engine of party, it was suggested by the bishop of London, that the authorised version, without note or comment, should be the only book in the languages of the United Kingdom, to be circulated by the Society. This proposal allayed all existing fears, and threw an effectual barrier in the way of all future jealousies. It equally interested the churchman and the dissenter; the definition was too precise and clear to admit of controversy or disagreement, and to this simple principle is to be traced the harmony, the zeal, and the energy which, from the moment of its adoption, for so many years, distinguished the British and Foreign Bible Society.

2. The constituents of the Committee presented more formidable difficulties than were at first anticipated. This question was peculiarly calculated to excite party feeling, and to awaken prejudice and distrust even in the most upright and liberal minds. Are all denominations of Christians to be represented in the committee by members of their respective bodies? and, if they are, in what proportion? What is to decide their proportion; piety, wisdom, wealth, or numbers? and must every one take his seat in the committee, as a stickler for the honor and pre-eminence of his own party? All these enquiries seemed to open a wide field for discussion and angry controversy. But here, too, divine principles triumphed over human pride, and a happy suggestion, the fruit of wisdom, candour, and forbearance, soon terminated a discussion which might have led to the most disastrous consequences. Attending to the suggestion, it was determined the committee should consist exclusively of laymen; that of the thirty-six members, to which number it was limited, six should be foreigners resident in or near the metropolis; and of the remaining thirty, one-half should be members of the established church, and the other half members of other Christian denominations. In order, however, to secure the services of the clergy, and of ministers generally, provision was made for their admission to a seat and a vote in the committee, on the terms which made them members of the society; a provision which, while it concealed their names, recognised their privileges and retained their co-operation.

3. The business of appointing secretaries was one of equal difficulty with that of the formation of the committee. This, however, yielded to the spirit of wisdom and liberality which so eminently distinguished the individuals with whom the institution itself originated. The secretariat was divided into three distinct branches of office, and each had a representative. The reverend Josiah Pratt was appointed secretary to represent the established church; the

Rev. Joseph Hughes as the organ of the dissenters; and the Rev. Mr. Steinkopff, as the foreign secretary, to maintain the interests of the foreign churches. The resignation of Mr. Pratt, soon after his acceptance of his office, a measure dictated perhaps by his prudent solicitude for the general acceptance of the Society among the higher clergy, to which he felt that the name of a marked and well-known evangelical clergyman might be objectionable, prepared the way for his able, ardent, and eloquent successor, the Rev. John Owen. Thus was everything regarding the executive of the institution amicably arranged, and it only remained, that a name of sufficient weight and distinction in the country should grace its list of patronage, and give sanction to an object which conferred infinitely more honor than it could ever receive. It was deemed highly important, if not indispensable, to gain the concurrence and support of the most influential body in the kingdom, the clergy of the established church, as well as the co-operation of its most zealous and efficient laymembers. In accomplishing this object, to a degree which far exceeded the most sanguine expectations of the Committee, they were greatly assisted by the lord bishop of London. It was his lordship's suggestion that induced their application to Lord Teignmouth to become the president of the society; and on the day after Lord Teignmouth's nomination to the presidency, the 15th of May, the bishops of London and Durham sent in their names as subscribers of five guineas annually to the funds of the society; and before the close of the ensuing June, both these prelates, together with the bishops of Exeter (afterwards of Salisbury) and St. David's (now of Salisbury) accepted respectively the office of vice-president. Sir William Pepperell, Bart. Vice-admiral (now Lord Gambier), Charles Grant, Esq. William Wilberforce, Esq. and Henry Stratton, Esq. were other names that were quickly enrolled.

We subjoin the entire code of principle and management, as it was completed a little before the first anniversary.

LAWS AND REGULATIONS OF THE BRITISH AND FOREIGN BIBLE SOCIETY.

1. The designation of this Society shall be The British and Foreign Bible Society, of which the sole object shall be to encourage a wider circulation of the Holy Scriptures, without note or comment. The only copies in the languages of the United Kingdom to be circulated by the society, shall be the authorised version.

2. This Society shall add its endeavours to those employed by other societies, for circulating the Scriptures through the British dominions; and shall also, according to its ability, extend its influence to other countries, whether Christian, Mahomedan, or Pagan.

3. Each subscriber of one guinea annually shall be a member.

4. Each subscriber of ten guineas at one time, shall be a member for life.

5. Each subscriber of five guineas annually shall be a governor.

6. Each subscriber of fifty pounds at one time, or who shall, by one additional payment, increase

his original subscription to fifty pounds, shall be a governor for life.

7. Governors shall be entitled to attend and vote at all meetings of the committee.

8. An executor paying a bequest of fifty pounds, shall be a member for life; or of one hundred pounds, a governor for life.

9. A committee shall be appointed to conduct the business of the society, consisting of thirty-six laymen, six of whom shall be foreigners, resident in London or its vicinity, half the remainder shall be members of the church of England, and the other half members of other denominations of Christians. Twenty-seven of the above number, who shall have most frequently attended, shall be eligible for re-election for the ensuing year. The Committee shall appoint all officers, except the treasurer, and call special general meetings; and shall be charged with procuring for the Society suitable patronage, both British and Foreign.

10. Each member of the society shall be entitled, under the direction of the Committee to purchase Bibles and Testaments at the Society's prices, which shall be as low as possible.

11. The annual meeting of the Society shall be held on the first Wednesday in May, when the treasurer and committee shall be chosen, the accounts presented, and the proceedings of the foregoing year reported.

12. The president, vice-presidents, and treasurer, shall be considered, ex officio, members of the Committee.

13. Every clergyman or dissenting minister who is a member of the Society, shall be entitled to vote at all meetings of the committee.

14. The secretaries for the time being, shall be considered as members of the Committee; but no person deriving any emolument from the Society shall have that privilege.

15. At the general meeting, and meetings of the Committee, the president, or in his absence, the vice-president first upon the list, then present; and, in the absence of all the vice-presidents, the treasurer; and, in his absence, such member as shall be voted for that purpose; shall preside at the meeting.

16. The Committee shall meet on the first Monday in every month, or oftener if necessary.

17. The Committee shall have the power of nominating such persons as have rendered essential services to this institution, either members for life, or governors for life.

18. The Committee shall also have the power of nominating honorary members from among foreigners who have promoted the objects of this society.

19. The whole of the minutes of every general meeting shall be signed by the chairman.

Such was the origin of the British and Foreign Bible Society; and such were the principal steps by which it was trained from its elementary existence, in a crude suggestion and in unpromising obscurity, to the ripeness of its plan in a well-digested system, an organised establishment, and a regular and dignified patronage.

While a spirit of mutual forbearance and kindness reigned in the Committee, on whom devolved the important charge of the executive of the

institution ; it prepared them for the most vigorous measures in promoting and carrying forward its great and characteristic object. The word of God united them, and they felt a concentration of energies, wholly devoted to the design of its circulation. The chairman and the secretaries possessed, in a peculiar manner, all those qualities of adaptation which fitted them for their respective departments in the great scheme of philanthropic operation. Perhaps, says Mr. Owen, it would not have been possible to find throughout the British dominions a man in whom the qualities requisite for the first chairman of the British and Foreign Bible Society were so completely united, as they were in this venerable philanthropist. A churchman in faith, in charity a universalist, he stamped upon the institution, while it was yet tender, those characters which suited its constitution and its end ; and, while he made it respected by the sanction of his name, he improved it by the influence of his example.

Lord Teignmouth, from character, extensive knowledge of the world, and influence in society, from his christian benevolence, and tempered zeal, his prudent sagacity, and ready promptitude, his skill to devise, and his ability to execute, was admirably fitted to sustain the duties of that high office, to which the concurring suffrages of all who felt interested in the success of the institution, had spontaneously called him.

In Hughes, Owen, and Steinkopff, were happily blended and contrasted those points of union and of difference which secured the combination of all their powers and influence to the great object they respectively had in view.

‘ Calm-eyed ethereal Faith, and ardent Hope,
And seraph Love.’

Such were the men ; a threefold cord which only death could sever ; and which continued firm and unbroken till their more ardent spirit had outstripped its fellows in zeal, in labor, and success, and obtained therefore an earlier haven.

The Society having been nominally formed on the 7th of May 1804, from that period its Committee held periodical meetings, for the most part weekly, till the Society was completely organised, and its business brought into a regular train ; afterwards they adhered to a general resolution which convened them on the first Monday of every month ; though on every occasion of exigency or importance they met more frequently.

The first proceeding resorted to, with a view to the execution of the Society's design, was the appointment of different sub-committees, for the several departments of its practical business. These subordinate committees began their operations with great spirit in the month of March.

Three considerations appear in this early stage of their existence to have occupied the principal solicitude and attention of the Committee ; the care of the Society's funds, the improvement of its general interest, and the prosecution of enquiries directed to the accomplishment of its object—the circulation of the Scriptures. Of the two former it is not necessary that we should say more than that they were prosecuted with great earnestness, and with most encouraging success.

The Committee, whose proper business it was to ascertain the dearth of the Scriptures both at home and abroad, and to supply the means of removing it, directed their first efforts to the Principality and to Ireland ; they were anxious that copies of the sacred volume, in the Welsh and Irish languages, should be put into immediate circulation. Mr. Steinkopff was also deputed to open a foreign correspondence, in order to the promotion of the Society's object abroad. While these measures were in a train, the Committee was occupied for several months in enquiries and negotiations respecting the Chinese MS. of the New Testament in the British Museum. Dr Antonio Montucci had published in October and November 1801, in the Gentleman's Magazine, an account of this MS., and when he heard of the formation of the Bible Society, this gentleman addressed a letter to Mr. Hughes, offering his services as editor, should it be thought expedient to print the MS. A correspondence was now therefore opened with persons of distinction, and supposed to be well acquainted with Chinese literature. Sir George Staunton rendered the Committee all the assistance in his power, and imparted to them a great deal of knowledge from his own former intercourse with China. The object of the correspondence was, however, at length deemed either inexpedient or impracticable at this time ; and, though it was not totally abandoned, it was indefinitely deferred. While the Committee were anxiously looking around to facilitate the printing new editions of the Scriptures in Welsh and Irish, Mr. Andrew Wilson commenced a negotiation with the university of Cambridge, for the introduction of his improved mode of printing Bibles and Testaments by the employment of stereotype plates ; this negotiation was brought to a favorable issue ; and the syndics of the press had concluded to adopt his process for printing Bibles and Testaments at the very period in which enquiries were making into the best mode of obtaining supplies of both in the languages of the united kingdom. To the Committee of the British and Foreign Bible Society the plan of printing the Scriptures by stereotype offered so many and important advantages, that, after mature deliberation, a resolution was passed that a number of Bibles and Testaments in stereotype should be immediately ordered, and, among that number, 20,000 Welsh Bibles in 12mo., and 5000 additional Testaments in a larger type. This measure was determined upon at a meeting on the 3d of September 1804, and the determination was notified to the University of Cambridge without delay.

On the 23d of July in this year, with a view to extend the foundation of the institution, and to associate with it whatever would be likely to consolidate its strength, facilitate its proceedings, and augment its respectability, it was determined by the Committee to address the two great Religious Societies in London and Dublin, denominated respectively, ‘ the Society for Promoting Christian Knowledge,’ and ‘ the Association for Discourteasing Vice, and Promoting the Knowledge and Practice of the Christian Religion.’ The object was to assist these societies

in that part of their plan and constitution which related to the circulation of the Scriptures only. From the Dublin Association a respectful and friendly acknowledgment was transmitted in return *by order of the Board*. Dr. Gaskin, and the Society of which he was an accredited organ, made no acknowledgment. Another measure, directed to the enlargement of the Society's connexions, and its more complete introduction to notoriety and usefulness, was that of addressing the parochial clergy, dissenting ministers, and other respectable persons, individually, as far as might be practicable throughout the united kingdom. For this purpose a circular, containing a plan of the institution, extracts of correspondence, and a list of subscribers, was prepared; and very extensively distributed, free of expense to the receiver, through the medium of the post.

The correspondence abroad produced the most gratifying assurances of approbation, and of a cordial disposition to co-operate in promoting the design of the institution as it regarded foreign countries. To the imperial city of Nuremberg a donation of £100 was granted in the event of a Bible Society being formed in that place; the result of this proposition was the establishment of the first FOREIGN BIBLE SOCIETY. The foundation of it was laid on the 10th of May 1804. From Stuttgard, Professor Druck, librarian to the elector (now king) of Wirtemberg, in reply to the letter in which he had been addressed, transmitted important intelligence relative to the versions of the Scriptures in the Wirtemberg library, amounting in all to more than 4000 different editions of the whole Bible, or of distinct parts of the same, and accompanied his account with expressions of the highest gratification and surprise at the motive and object of those enquiries to which his answer was requested. Communications were opened with Sweden, with Holland, and with Berlin; at the latter place it was the wish of several distinguished persons to form a Society for the purpose of printing an edition of the Bohemian Bible, and £100 was voted from the British and Foreign Society on this condition, in aid of this most desirable and necessary object. The most remarkable circumstance elicited by this general correspondence by the Society's agents through different parts of the continent of Europe, was an address from a Roman Catholic clergyman in Suabia, indicative of an improved temper in the members of that church, and the harbinger of a better understanding than had hitherto subsisted between them and their brethren of other denominations. The concluding paragraph in the letter of this excellent Roman Catholic divine to the Committee of the Protestant Bible Society, is so unique that it deserves an introduction into our pages.

'Now, I beg you, my dear brother in Christ, to receive these few lines in love. I wrote them, trusting it might be acceptable to your venerable Society. I cannot express in terms sufficiently strong, the fervency of my joy and of my love towards all who, throughout England, heartily believe in Jesus Christ as their only Saviour, and zealously endeavour to extend the Redeemer's kingdom. I embrace them all as the beloved and elect of God, as friends and brethren in Christ,

let them be of whatever name, or belong to whatever church or denomination. The more distant the countries, and the more different the outward forms and establishments are, the more I rejoice, if I am privileged to hear that an ever faithful Lord and Saviour is gathering from among them a flock of believing people. Truly God has a numerous *army of reserve* in England, who do not bow before the Baal of the age, nor sacrifice to the god of the times. Let all who know his name, glorify him for his mercy! May the peace of God, and the all-sufficient grace of our Lord Jesus Christ, be with you all.' This letter the Committee regarded as an invitation to occupy a field from which they had considered themselves as altogether excluded, and they resolved to place 1000 copies of the Protestant New Testament, then printing at Nuremberg, at the disposal of this zealous correspondent, for distribution by sale or gift among the Roman Catholics of Suabia and Bavaria; and directed him to be assured of their sincere disposition to afford the members of his communion every degree of aid consistent with the principles and means of the institution. These transactions comprehend every thing which it is material to record, in the history of the Society's attempt to establish a system of foreign relations, from its commencement to the month of December 1804.

In the meantime, the measures adopted for supplying the inhabitants of the united kingdom with the Scriptures in the English and Welsh languages, continued to be prosecuted with unabated vigor; and advanced as rapidly as, from the more tardy process of casting the stereotype plates, and other impediments inseparable from the execution of great and important concerns, could be reasonably expected.

Things had attained this state, when an incident occurred which afforded the Society an opportunity of making the first application of its funds to the printing of a portion of the Scriptures in a foreign language, under its own immediate direction. Captain John Norton, chief of the Mohawk Indians, who inhabit Upper Canada, was then in England, and, having become a decided convert to Christianity, he undertook the translation of the Evangelist John into their tongue. After due investigation of the claims of his translation, it was accepted by the Committee, and forthwith printed. By this act a very important portion of the sacred book was put into the hands of more than 8000 souls, who were allies of the British government.

About this period also the foundation was laid for that biblical library, which, by gradual accumulation, is now become considerable and important. It was determined that of every edition or translation of the Holy Scriptures, or of parts thereof, printed under the auspices of the British and Foreign Bible Society, six or more copies should be transmitted to be lodged in its depository; and that an appeal should be made to the community at large, through the medium of certain daily newspapers, and periodical publications of character, soliciting donations of Bibles, Testaments, or portions of the Scriptures, in the ancient and modern languages. The first fruits of this determination were a munificent

present from Granville Sharp, Esq., of thirty-nine copies of the Holy Scriptures, or certain portions of them, in various languages, together with the Irish and Italian versions of the English liturgy.

The commencement of the year 1805 was rendered memorable in the annals of the Society by a serious and protracted discussion, relative to the text at that time preparing for the purposed edition of the Welsh Bible. This discussion was begun by imputations thrown upon the integrity of the agents on whom the Society devolved the task of carrying this valuable undertaking through the press. The accuser was a Rev. J. Roberts, described by the Rev. Dr. Gaskin, as 'a very respectable clergyman and eminent Welsh scholar, who had been employed by the Society for Promoting Christian Knowledge, in correcting the press of the last Oxford edition of the Welsh Bible.' The charge of this Rev. censor, which, through the medium of Dr. Gaskin, as Secretary of the Society for Promoting Christian Knowledge, was transmitted to all the Bishops whose names appeared as Vice-Presidents of the British and Foreign Bible Society, amounted to this, 'That improper alterations had been made in the present orthography of the Welsh version of the Bible.' Trifling and vexatious as the imputation on the face of it must have appeared, especially considering the quarter in which it originated, it was nevertheless very patiently and impartially examined. The result is before the public in the Rev. Mr. Dealtry's 'Vindication of the British and Foreign Bible Society.' It is highly honorable in all respects to the Rev. Mr. Charles of Bala, who had kindly proffered his services to the Society, to prepare a copy of the Welsh Scriptures for the press. And now that the fact is ascertained, that the new Society are engaged in vigorous operations to meet this emergency, the tardy Bartlett's Buildings Society, jealous of its upstart rival, announces a resolution of 'the Board,' passed on March 12th 1805, to print 20,000 Welsh Bibles from its former edition of 1746, which they subsequently altered to that of 1752. Accusing at the same time the British and Foreign Bible Society of rivalry and opposition to the Society for Promoting Christian Knowledge, because they had directed their first efforts to relieve that specific moral necessity which had been the principal reason for the formation of their Society. The Bible Society, however, in this as well as in all its subsequent conflicts, was triumphant. Mr. Charles was exonerated from the suspicion of attempting or intending any change in the translation, and the Committee expressed their real satisfaction in having been able to show that the confidence reposed in him had been amply justified. The charge of rivalry fell pointlessly to the ground, when it was clearly shown, that the first order for printing an edition of the Welsh Scriptures on account of the Bible Society was dated on the 3d of September, 1804; and that the first information which the Committee of that Society received, that the Society for Promoting Christian Knowledge had come to a resolution at their last meeting to print an edition of 20,000 Welsh Bibles, was made, in the words of the quotation, by a member of both

Societies, on the 18th of March, 1805. 'The spirit of rivalry in this case' says Lord Teignmouth, 'must have been prophetic.' But, to end all dispute, and to prove to the venerable Society, that the more recent institution, which she regarded with such unreasonable jealousy, had no sinister interest to serve, no envy to indulge, no vanity to gratify, the Bible Society resolved to supersede their own revised copy, and to adopt the text of their opponent as the foundation of their projected edition.

About this time intelligence was received from Bale, in answer to the communication addressed to that place, inviting its inhabitants to co-operate with the British and Foreign Bible Society in the advancement of its foreign objects. The parties who had been addressed, announced their willingness to adopt the proposal of forming a Bible Society for their town and vicinity; but added, that from local difficulties, they were not yet in a condition to proceed to such an establishment; they had therefore determined, under present circumstances, to unite their exertions with those of their brethren at Nuremberg. An interesting letter was also transmitted from the Rev. Mr. Oberlin, minister of a parish in Alsace, containing five villages, and embracing a mixed religious population of Roman Catholics, Lutherans, Reformed, and Baptists. Mr. Oberlin had been supplied with funds from England for the purchase of French and German Bibles, intended for distribution, and this was the occasion of his writing to the Society, through the medium of its foreign secretary.

Coincident with the receipt of these communications from Germany was that of the first regular information relative to the design entertained by the Baptist missionaries at Serampore, to engage in an extensive system of Oriental translations: it was a letter from Mr., now Dr. Carey at Calcutta, to the secretary of the mission, the late Rev. Andrew Fuller; and it represented the missionaries as already employed on four languages, and as possessing considerable advantages, should they be adequately supported, for translating the Bible into all the languages of the East.

Such was the state to which things had arrived, in both the domestic and foreign department, when a publication appeared, which opened upon the Society the first of those many attacks by which it was destined to be assailed. The title of this publication, was, An Address to Lord Teignmouth, President of the British and Foreign Bible Society, occasioned by his Address to the Clergy of the Church of England; by a Country Clergyman. At this distance of time, and when so much of the effervescence of irritated feeling has passed off, we cannot but wonder at the mighty stir which this most puerile and insignificant pamphlet was the means of exciting. It was hailed by the ultra-orthodox among the clergy as a composition of great 'pith and moment.' It was circulated with matchless industry, and the following postulates of this modern ecclesiastical Locke, were repeated with a solemnity, and a confidence, which rendered dissent something worse than heresy.

'Christian charity no where recommends asso-

ciations of discordant principles, combinations of men professedly at variance, and in hostility, with each other; but Christian charity enjoins that which renders all these elaborate societies useless; it teaches and obliges Christians to be like-minded, to have one faith, one baptism, one speech, and one hope of their calling.'—*Address*, p. 11.

'It is to be expected that each member of your heterogeneous society will raise his portion of books for the promotion of his particular opinions; for it is easily seen, that a Bible given away by a Papist, will be productive of popery, the Socinian will make his Bible speak and spread Socinianism, while the Calvinist, the Baptist, and the Quaker will teach the opinions peculiar to their sects. Supply these men with Bibles (I SPEAK AS A TRUE CHURCHMAN), and you supply them with arms against yourself.'—*Ibid* p. 13.

A meeting was convened at London House, which was composed of lord Teignmouth, the bishops of London, Durham, and Exeter, and the Rev. John Owen, the clerical secretary of the institution. The formidable bill of indictment was produced, and poor Lord Teignmouth and Mr. Owen put upon their defence. The latter allayed the apprehensions of the venerable conservators of the church's safety, and, with a meekness and earnestness which did them honor, they requested Mr. Owen to undertake the defence of the Bible Society, against its weak, yet evidently malignant opponent. Thus urged, Mr. Owen yielded a ready compliance, and in the course of three weeks brought before the public a pamphlet entitled 'A Letter to a Country Clergyman, occasioned by his address to lord Teignmouth, &c. by a Suburban Clergyman.' In this production Mr. Owen appears to the greatest advantage as a controversialist, a gentleman, and above all as a christian.

The first anniversary of the Society was celebrated on Wednesday the 1st of May, 1805, at the New London Tavern, Cheapside. 'The scene presented on this interesting occasion,' says Mr. Owen, 'was distinguished by features which gave it an irresistible influence over the kindest and most elevated affections of the heart.'

The society now became more extensively known, the subject of more general enquiry and discussion; and its patrons and friends multiplied in full proportion. In Wales the spirit diffused itself with great rapidity. In Scotland the co-operation became more extended and organised; and during the year 1806 The Society incorporated by royal charter, for Propagating Christian Knowledge, being invited to patronise and co-operate with the British and Foreign Bible Society, cordially assented to the proposal. Ireland was not neglected; though she required more to interest and excite her into action, on account of her ignorance and spiritual degradation; yet intelligence was conveyed across the channel, correspondence with many influential persons was carried on, and thus a foundation was laid for that superstructure which shortly after indicated so rapid a progress.

Every month added something to the increase

of its strength on the continent; a Roman Catholic Bible Society, roused by the example of the Protestants at Nuremberg, was established at Ratisbon under the superintendence of the Rev. Mr. Wittman, director of the ecclesiastical seminary in that place. The address of this truly pious divine to Christians of the Roman Catholic persuasion throughout Germany, is peculiarly simple, liberal, and devout. We must refer however to Mr. Owen's History, for a perusal of this invaluable document, vol. i. page 174.

At Halle in Saxony, the Society's application about this time began also to take effect. And the Rev. John Janicke, stimulated by the example of Nuremberg, and encouraged by the generous proposal of the British and Foreign Bible Society, exerted himself with so much judgment and perseverance, that the foundation of a Bible Society was laid in Berlin in the commencement of 1806, under the direction of some noblemen and other persons of great distinction and exemplary character.

In the meantime, the wants of Great Britain were neither forgotten, nor lightly considered. Much exertion was made to accelerate the production of some fruits from the stereotype press, in order that the desirable business of distribution might commence among the necessitous part of the British population. This object was obtained in September, 1805, when an impression of an octavo English Testament was announced as ready for delivery, and the work of distribution commenced without delay.

The Dublin Association was also assisted, as were subsequently the Naval and Military Bible Society in London, and certain other religious institutions; by being permitted to share with the British and Foreign Bible Society in its advantageous arrangements with the University of Cambridge: and every opportunity was eagerly embraced of supplying, both directly and indirectly, the scriptural wants of the country, and of exciting attention to the importance of reading and dispersing the lively oracles of God. One of the earliest and most beneficial results from the distribution in Ireland, combined with other exertions of a similar description in that country, was the establishment of a Bible Society at Dublin.

The attention of the Society was about this time excited to the consideration of the Gaelic Scriptures. Representations were transmitted from persons of credibility, stating that in the Highlands of Scotland very few persons were in possession of a complete Bible; that among those who possessed a single volume of the four in which the Scriptures had been published, the proportion did not exceed one in forty; that the price of a complete copy was beyond the ability of the poor to purchase it; and that, in fact, it was not easily procurable at any price. It was added, that, in the island of Sky, containing about 15,000 persons, scarcely one Gaelic Bible was to be found.

It further appeared, on the authority of an Address, delivered in May, 1803, by the Secretary to the Society in Scotland for Propagating Christian Knowledge, that out of 335,000 persons in the Highlands, 300,000 were considered

not to understand any other language than the Gaelic, so far at least as to comprehend a book written, or a continued discourse.

After due enquiry, and deliberate discussion, the Society resolved upon the measure of furnishing the Highlanders with an impression of the Gaelic Bible from an universally accredited text.

Shortly after the business of the Gaelic Bible had been taken up, the case of the numerous prisoners of war was brought under the Society's consideration, and excited a very lively sympathy in their favor, and a strong disposition to administer to their relief; and now was a beginning made in that department of beneficence, which afterwards occupied so greatly the labors of the Society, and by means of which its spiritual bounty was conveyed to so many receptacles of ignorance, misery, and vice.

This, perhaps, is the most appropriate place in which to explain the nature and operation of the Auxiliary Societies and Associations, which, commencing in London in 1805, have done more to secure the prosperity of the British and Foreign Bible Society, than all the other means put together, which wise and enlightened benevolence has yet been able to devise.

AUXILIARY SOCIETIES were the first in order; these, it was proposed, should unite the energies of a county, or a large district. Each Auxiliary to possess its own patrons, president, treasurer, and secretaries, and to transact its own business upon the fundamental principles of the Parent Institution; securing to all its members the same privileges. These auxiliaries were to receive subscriptions, and to distribute copies of the Scriptures at cost, or reduced, prices, or gratuitously, as they might deem necessary; and after deducting from the aggregate contributions of the year the sums they expended, to transmit the remainder, through the treasurer, to the general fund in London. When it was found that the extent of a county was too great, or its towns and villages too numerous to be easily managed by the Auxiliary, Branch Societies originated, connecting themselves with their respective auxiliaries, just as these were connected with the Parent Society. But the grand instrument was yet wanting, that which should combine the greatest moral good with the most astonishing augmentation of pecuniary support. This was the principal of Local Associations, which was no sooner applied, than the happiest results immediately followed. The association was designed to embrace the pence of the poor, in the form either of weekly deposits, for the purchase of Bibles, which they received from the Committee, as soon as these deposits amounted to the stipulated price; or of free subscriptions, which, it was believed, the pious poor would take the greatest delight in contributing, and thus advancing the cause, according to their ability, in the success of which they were equally interested with their more opulent brethren; but from the promotion of which, they had hitherto been excluded by their poverty. Where there existed Branch Societies, the associations were to transmit their funds to that in their immediate vicinity; if not, to their county or district auxiliary,

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deriving from them their required supplies of the Scriptures. By this admirable system, the moral benefits and the pecuniary resources of the British and Foreign Bible Society, were happily united. The benevolence of all classes of the community was laid under requisition; while the worst abuses likely to arise from indiscriminate and gratuitous distribution of the Scriptures were effectually guarded against. It was not, however, matured at once; during the first six years of its history, the society received comparatively but little support from its auxiliaries, and it was not till a much later period that local associations for the poor were organised.

Early in the year 1806 an attempt was made, as it afterwards appeared, by the same individual, who, under the title of a country clergyman, had before violently assailed the society, to detach from it the countenance and support of its episcopal patrons. The attack was in the form of a letter to the bishop of London. The writer, no doubt, presumed upon the natural timidity of his lordship's character, and it is really distressing to perceive how such a mind as that of Porteus could be affected by the insolent abuse of an anonymous calumniator; affected to such a degree as to vacillate between supporting and abandoning an object, which he had deliberately espoused upon principle, merely because it was united with the additional merit of having provoked the blind and bigotted hostility of a Papist in disguise. Mr. Owen too was all apprehension and terror; and we are not to wonder at his trepidation, when we consider how well he was acquainted with the difficulties which had been surmounted, in attaching to the society its episcopal patronage, and the conviction which he felt that the loss of that patronage would have involved 'the institution in certain and irremediable destruction.' But thousands now felt the delightful assurance, that the success of the Bible Society depended neither upon the smiles of episcopacy or presbyterianism. It was the badge and the glory of the catholic church, and was identified with the churches of England, Scotland, Rome, or any other churches upon the face of the earth, only so far as they cherished a catholic spirit.

We must pass on rather hastily over the subsequent years of the Society's labors and successes, referring our readers, for more detailed and minute statements, to the very full, though somewhat tedious, volumes of Mr. Owen, and to the annual reports of the institution itself. From 1806 to 1809 the Society gradually advanced in public favor, and in more extended usefulness. Under these auspices, and patronised by the king of Prussia, an edition of the Bohemian Bible, amounting to 3000 copies, was put to press. To Königsberg, the capital of Prussia, and to the province of Jethuania, containing a population exceeding a million of souls, the Society devoted much of its attention, and prepared the way for active operation. The case and circumstances of the inhabitants of Iceland passed also under their review, and measures were adopted to furnish this interesting and destitute people with the sacred Scriptures; the Society offering to defray half the expense of an edition

of 5000 Icelandic Testaments. It was at this time, and arising out of circumstances connected with this last measure, that the Society became acquainted with two of their most zealous and indefatigable agents, who for several years effectually promoted their interests in the northern parts of Europe. The Rev. Messrs. Pater-son and Henderson, during the year 1806 penetrated into Russia, in connexion with Karass, a missionary settlement to the north of the Caspian Sea. The missionaries occupying that station were the Rev. Henry Brunton and the Rev. Robert Pinkerton: these gentlemen, with their associates, having been induced to undertake the translation of the New Testament into the Turkish and Tartar dialects, applied to the British and Foreign Bible Society, in order to obtain encouragement and aid towards the performance of so desirable an undertaking. The Committee, regarding the proposed work as pregnant with great and extensive advantages, determined to supply the translators with a new font of Arabic types, and a sufficient quantity of paper and ink, to enable them to execute an impression of 5000 copies. About this time the Committee opened a correspondence with archbishop Plato, the metropolitan of the Greek church in Russia, with a view to interest that eminent and learned prelate in measures for promoting the circulation of the Scriptures in Russia. The application was successful, and the most promising field that was ever opened to the labors of any benevolent institution, presented itself, on this occasion, to the Bible Society. It was occupied for several years, and with the most encouraging tokens of success. The Society's exertions were likewise directed to the French at St. Domingo, the Spaniards at Buenos Ayres; to the British settlers, soldiers, and colonists, in North America; to the Cape of Good Hope, New South Wales, and Van Diemen's Land; to the felons and other prisoners in Newgate; to the case of Mahomedans and heathens whose spiritual instruction, too long overlooked by the bulk of European Christians, had begun to awaken in the breasts of a few the emotions of sympathy and anxious consideration.

Dr. Carey having introduced to the Society the scheme of Oriental Translations, so nobly projected by the Baptist missionaries at Serampore, and Dr. Buchanan's Memoir on The Expediency of an Ecclesiastical Establishment for British India, having furnished the additional, and very important information, that, 'under the auspices of the College of Fort William, the Scriptures were in a course of translation into almost all the languages of Oriental India,' it was determined to appropriate £1000 to an object, in all respects so deserving of encouragement and aid; and a grant to that amount was accordingly made. A regular intercourse now commenced between the conductors of the British and Foreign Bible Society, and the leading friends of Christianity in the heart of British India; and it appeared to the former in a high degree desirable to take all practicable steps in order to cherish and improve the connexion. With this view, a second grant of £1000 was made on the 4th of May, 1807; and on the 15th

of June, it was further determined to send 500 English Bibles and 1000 Testaments, from the London Depository, and 250 German Bibles and 500 Testaments, from the institution at Halle, for the use of the army and navy, and other Europeans in India.

It was about this time that the British and Foreign Bible Society conceived the design, of promoting a correct and acceptable impression of the Arabic Scriptures. The subject underwent very serious and repeated examination; and extended correspondence was carried on with the bishops of London and Durham, the professors of Arabic in both our Universities, and other persons of competent information, with a view to the ascertainment of a standard text, and such other points as required to be accurately known previously to a formal and conclusive determination. So many difficulties, however, combined to retard the execution of the purpose, that the Committee, finding their own plans altogether immature, and unwilling to sacrifice any further delay, determined to subscribe for 300 copies, as a temporary expedient.

In 1807 Mr. Twining published his attack upon the British and Foreign Bible Society, so far as their views were directed to India. This gentleman accused the Society of meditating an interference in the religious opinions of the native inhabitants of India; and denounced that interference as fraught with the most disastrous consequences to our possessions in the East. This brought forth an able refutation from the pen of Mr. Owen, who in his address to the chairman of the East India Company, occasioned by Mr. Twining's letter to that gentleman, undertook to prove, that neither in the *object*, the *patronage*, nor the *proceedings*, of the Society, was there any thing to justify the charge of culpable interference with the religious systems of India, or to authorise the apprehension of these alarming consequences to our sovereignty in the East, which had been so confidently predicted. Mr. Twining and his coadjutors were not satisfied either with this, or the various other replies which were written in defence of the missionaries, as well as of the Bible Society. They continued to fulminate an alarm, and were encouraged in their pagan and idolatrous zeal, by those gentlemanly Christians, the redoubted critics of the North. But though reason could not silence, time has rendered them false prophets; and they now stand corrected before the world, either as fanatics or impostors. A man should never pretend to prophecy unless he can work miracles. Mr. Twining was no conjurer, and hence the Edinburgh Review for once ceased to be oracular. The noble president of the Bible Society followed on the same side of the question, by publishing his *Considerations on the Practicability, Policy, and Obligation of Communicating to the Natives of India the Knowledge of Christianity*; with *Observations on the Prefatory Remarks to a Pamphlet*, published by Major Scott Waring, by a late resident in Bengal. Of this production, Mr. Owen justly says, 'It would be difficult to speak in terms proportioned to its merits, without incurring the suspicion of a design to write its panegyric.' Controversy neither suspended the exertions of

the Committee, or weakened the favorable impressions which the Bible Society had already produced on the public mind. Both at home and abroad, the great cause gradually and silently extended its influence, so that in April 1810, that is six years after its establishment, thirteen auxiliary societies were formed in various parts of the kingdom, while at Basle, Berlin, and Stockholm, the Scriptures were widely circulated in different languages; beyond the Atlantic, fields of useful exertion presented themselves. Philadelphia took the lead, and an efficient Bible Society soon obtained an establishment in that city. The example thus set was soon followed, and in the course of the first year from the commencement of the Philadelphian Institution, six kindred establishments were formed: the Connecticut Bible Society at Hartford; the Massachusetts, at Boston; the New Jersey, at Princeton; and three at New York, under the respective designations of The New York Bible Society; and The New York Bible and Common Prayer-book Society.

Now commenced the Wordsworthian controversy, designed by the assailant of the Bible Society, the Rev. Dr. Wordsworth, dean of Borking and chaplain to the archbishop of Canterbury, to withdraw the patronage of the established clergy from the institution. The ground of objection assumed by this dignified person, was singular enough, and, but for various reasons unconnected with the literary controversy, an uninformed reader might very innocently have hailed Dr. Wordsworth as a friend of the Bible Society, supporting its claims, and covering its enemies with ridicule by a severe ironical attack.

This learned adversary of the Bible Society assumed, that the great cause of Christian knowledge, the inestimable interests of piety, and peace, and true religion, would be injured and retarded by the Bible Society; because the support which the clergy and others might be disposed to render to that institution, would withdraw from the Society for Promoting Christian Knowledge, funds which would otherwise be appropriated to its support. We can only refer our readers to the answers which this weak and puerile work elicited from Lord Teignmouth and the Rev. Mr. Dealtry. Unfortunately for Dr. Wordsworth, he had assumed, what he was not prepared to prove, and which was instantly refuted by the facts of the case. The greatest benefactor the Society for Promoting Christian Knowledge ever had, both as it regards the augmentation of its receipts and the increase of its zeal, is unquestionably the Bible Society. Mr. Dealtry, by a comparison of the average receipts of the Society for Promoting Christian Knowledge, for four years preceding, with those of the five years immediately succeeding the establishment of the British and Foreign Bible Society, draws this general conclusion:—

‘Not only have the receipts and subscriptions increased, but the rate of increase has been greatly accelerated since the establishment of the Bible Society; and it should be particularly observed that the funds and subscriptions of *both Societies* received their greatest augmentation in the same

year; viz. in the year ending March 1809.’ We are constrained, with great reluctance, to abandon the form of narrative in our account of the further progress of this wonderful moral engine, the British and Foreign Bible Society, and to refer to the dry figures, and statements of its own reports, for what it has received and what it has achieved, in extending its influence and in circulating the Scriptures in the different languages of the world, from the year 1810 to the present period. It is incumbent upon us, however, very briefly to notice the controversies which have marked this portion of its history.

In the summer of 1810, the Rev. Dr. Wordsworth made his second appearance as an opponent of the Society, in a letter of 157 pages, addressed to Lord Teignmouth, president of the British and Foreign Bible Society, in vindication of reasons for not becoming a subscriber to that institution. To this elaborate and extended diatribe, written with some warmth of temper, and calculated by the station of its author, the massiveness of its bulk, and the pomp and circumstances of its subscription—implying that it was composed within the walls of ‘Lambeth palace,’ and finished on ‘St. Peter’s day,’—to produce no inconsiderable impression. The Rev. Mr. Dealtry replied, in a volume replete with sound information, solid argument, and acute and eloquent retort. ‘If, says Mr. Dealtry, addressing Dr. Wordsworth, ‘from the 157 pages of your pamphlet, I were to subtract the observations which are merely personal,—the discussions which are utterly irrelevant,—the multiplicity of bodings, which it is not difficult to make on all subjects,—the mistakes in fact, and the fallacies in reasoning,—the conclusions without proof, and the conjectures without probability,—I cannot but remark, that the argument would be shortened, and its effect diminished, in a degree hardly calculable.’ This description of Dr. Wordsworth’s Letter, a description by no means exaggerated, will account for the length into which Mr. Dealtry felt himself compelled to go in his ‘Vindication of the British and Foreign Bible Society.’ The discussion having been, for the most part, controversial, both in matter and in tone, it would answer no good purpose to exhibit it, either in detail or analysis. Of Mr. Dealtry’s ‘Vindication,’ however, it must be said, that it was a seasonable and masterly publication: it took in the whole scope of the question, and sifted to the bottom all the objections relevant and irrelevant which Dr. Wordsworth and others had advanced; and while it raised the character of the writer, it contributed very greatly to establish the growing reputation of the British and Foreign Bible Society.

On the 12th of December, 1811, the important name of Cambridge was added to the list of Auxiliary Bible Societies; but the accomplishment of this object, so honorable to the parties with whom it originated, as well as to those by whom it was conducted to its issue, was not, however, effected without experiencing a very formidable and decided opposition.

This opposition proceeded from the Rev. Dr. Marsh, Margaret Professor of Divinity; a person

of considerable learning, dexterous abilities, and profoundly versed in the tactics of controversy. In an Address to the Senate, the professor contrasted the British and Foreign Bible Society with the Society for Promoting Christian Knowledge, and contended that the latter was entitled to exclusive encouragement and support. The opening of the professor's address, though sufficiently ingenious, and adapted to ensnare the unwary, was certainly constructed too much on the model of a recruiting advertisement, to be worthy of a cause wherein accuracy of statement and dignity of manner were peculiarly required.

'We have at present,' says the professor, 'two very extensive Bible Societies, the one founded in 1699, the other in 1804. Both of our archbishops, and all our bishops, with the prince regent at their head, are members of the former: neither of the two archbishops, and only a small proportion of the bishops, are members of the latter.'

From the constitution of the two Societies, and their respective objects, the professor contends, that 'our encouragement of the ancient Bible Society must contribute to the welfare of the established church;' while, 'our encouragement of the modern Society, not only contributes nothing to it in preference to other churches, but may contribute even to its dissolution.'

To this Address, which formed the text-work for much of what was said on the 12th of December, a reply was produced by the right honorable N. Vansittart, then chancellor of His Majesty's exchequer; and 1000 copies of it were printed, and on the recommendation of his royal highness the duke of Gloucester, were distributed among the persons assembled at the formation of the Cambridge Auxiliary Society.

For this reply from a member of the University of Oxford, the cause was indebted to the somewhat indiscreet zeal of the author of the Address; the occasion of it is thus explained by Mr. Vansittart, in the introduction of his Letter.

'Dear Sir,

'I beg to return you my best acknowledgments for the communication of your Address to the Senate of Cambridge; which I the more strongly feel as a mark of your kind attention, as I have not the honor of belonging to that university, and as it is a considerable time since I have been so fortunate as to have had an opportunity of meeting you, you were perhaps not aware that you were sending your Address to a member of the British and Foreign Bible Society; but I accept as a proof of kindness your candid and friendly admonition, which affords me an opportunity of justifying myself to you as a church of England man, for contributing my assistance to that institution. I never, indeed, before thought it necessary to offer any apology for so doing; for though I was aware, before I engaged in the Society, that it had been represented as dangerous to the church, it appeared to me that this charge had been so completely refuted, that it is with no less surprise than regret that I now learn that you still think it well founded.'

Of the reply itself, it may be affirmed, in general, that it contains, within a small compass, a clear and satisfactory refutation of the charges

advanced by the learned professor against the principle and tendency of the institution. The style is chaste, the sentiments pious and liberal; and the Letter is characterised throughout by such a tone of candor and urbanity, as either to make the reader forget that he is perusing a controversial pamphlet, or to induce him almost to be in love with controversy. But it will be necessary to advert to a few particulars.

The professor had described the Society as deficient in patronage. On this topic Mr. Vansittart thus observes:—'Among the vice-presidents are already numbered one of the archbishops of Ireland, and five English, and two Irish bishops. I doubt whether the Society for Promoting Christian Knowledge, which now, as you observe, enjoys the countenance of the whole episcopal bench, was, at so short a period from its formation, honored with the support of so large a body of the prelates; and I should hope the time might not be far distant, when the two Societies may equally flourish under the general patronage of them all.' To the objection against the principle of associating with Dissenters, and its probable injuriousness to the interests of the Church, the right honorable author thus judiciously replies:—'The co-operation of Churchmen and Dissenters in religious matters, so far as they can conscientiously co-operate, seems to me one of the most efficacious means of lessening both the political and religious evils of dissent. It dispels prejudices, promotes candor and good-will, and must prepare the mind for the reception of that truth which every one perceives to be no less the object of those who differ from him than his own: from such a communication the church of England has nothing to fear, and every thing to hope: as holding (in our judgment at least) that middle line of truth in which all opposite opinions have a tendency to coincide.' 'And is that truth,' Mr. Vansittart asks, 'more likely to be acknowledged and embraced, by minds embittered by mutual jealousy and aversion, or by such as have been previously softened by conciliation?' With regard to the measure recommended by the professor,—that all Churchmen should withdraw from the Society, and leave it wholly in the hands of the Dissenters—Mr. Vansittart shows, that it is fraught with inevitable mischief. 'If anything can make the Society dangerous, this must do it; because there can be no check to any sectarian spirit which might introduce itself, and which must be unavoidably irritated by so harsh, and, I think, so unjust an indication of jealousy.' One of two consequences, Mr. Vansittart contends, must result from such a proceeding; either the reduction of the Society to utter insignificance, an evil sorely to be deprecated, or the future administration of it in nearly the same manner as before, by augmented zeal, activity, and exertion on the part of the Dissenting interest. 'This latter alternative,' he observes, 'is to transfer to Dissenters all the honor and influence of whatever has been done, and whatever may be done, by an institution the dawn of which is so glorious, but which is visibly rising into brighter day. Shall it be said,' asks Mr. Vansittart, 'that the Dissenters alone

have carried the word of God to every nation under heaven? Or shall the church of England continue to claim the leading part in this important work? And can the church of England stand so secure upon a narrow and exclusive policy, as by deserving the blessing and uniting the prayers of all people, nations, and languages?

To the general tendency of the professor's advice Mr. Vansittart opposes the following admirable statement and most salutary counsel. 'The existence of dissent will perhaps be inseparable from religious freedom, so long as the mind of man is liable to error; but it is not unreasonable to hope, that hostility may cease where perfect agreement cannot be established. If we cannot reconcile all opinions, let us endeavour to unite all hearts.'

These arguments, Mr. Vansittart observes, had induced him to consider his taking a part in the concerns of the Bible Society, not only consistent with, but a proof of, the sincerity and warmth of his attachment to the church of England; and 'far from repenting,' he adds, 'of what I have done, I feel convinced I shall least of all repent of it as I approach that state in which the distinction of Churchman and Dissenter shall be no more.'

In the following year, the Margaret Professor, author of the Address which we have thus summarily dismissed, produced his threatened Strictures on the Principles of the British and Foreign Bible Society, in an elaborate pamphlet, entitled, 'An Enquiry into the Consequences of neglecting to give the Prayer Book with the Bible, interspersed with Remarks on some late Speeches at Cambridge, and other important matters relative to the British and Foreign Bible Society.'

The appearance of this publication was greeted with numerous replies; and its fallacies were exposed, among others, by the caustic pleasantry of Dr. Clarke, the vigorous animadversion of Mr. Dealtry, the conclusive reasoning of Mr. Otter, and the luminous refutation of Mr. Vansittart. To these advocates, was added the Rev. C. Simeon, who, in the preface to Four Sermons on the Liturgy, very ably defended both himself, and the clerical members of the British and Foreign Bible Society, against the accusation conveyed through the assumption upon which the hypothesis of the professor was built.

The amount of what was stated in these several replies sufficiently evinced that the Society for Promoting Christian Knowledge had greatly augmented the number of its subscribing members; that the issue of Prayer-Books, both from that Society and other sources, had largely increased; and that there was every encouragement to conclude, as well from experience as from the reason of the thing, that, by a steady co-operation on the part of the church members of the Society, both the honor and the interest of the church would keep pace with the reputation and prosperity of the institution.

In connexion with those writers, who met the Professor's 'Enquiry' with direct replies, may be mentioned the Rev. Robert Hall, who, in a

speech of extraordinary ability at the Second Anniversary of the Leicester Auxiliary Bible Society, on the 13th of April, 1812, gave to every thing that was deserving of notice in that attack, a most acute and masterly confutation.

The Professor's subsequent attacks required little refutation; and the friends of the Society left them unanswered to their fate.

Now started up Dr. Edward Maltby, a clergyman of the protestant church of England, whose objection to the Bible Society was of a very different character to that of his predecessors; these had contended, that in giving the Bible, the Society gave too little; the object of this assailant was to prove, that in so doing the Society gave too much. 'The whole Bible ought not, in his opinion, to be given to the bulk of the people.' According to this Protestant-papist, 'out of sixty-six books, which form the contents of the Old and New Testament, not above seven in the Old, nor above eleven in the New, appear to be calculated for the study or comprehension of the unlearned.'

Against this attack, which threatened to reduce the Bible, in the hands of the common people, to less than one-third of its former dimensions, the British and Foreign Bible Society, or rather Christianity itself, was very ably defended by the Rev. J. W. Cunningham, Vicar of Harrow.

To the Observations of Mr. Cunningham, the author who had provoked them made no reply. He was not, perhaps, aware of the mischievous consequence of his theory, till he saw them so acutely exposed; and he very judiciously abandoned his pamphlet to the fate it deserved, and which, in the hands of Mr. Cunningham, it could not be expected to escape. If Dr. Maltby had not shown his respect for Christianity by a work of no ordinary merit, in its illustration and defence, he would have laid himself open to the suspicion of no very friendly designs towards our holy religion, and the institutions by which it is promoted. But, in fact, the cause of the Society is that on the side of which the Scriptures, and every church which professes to be founded upon them, are decidedly ranged; and they who will oppose it, can find no other weapons to employ against it than such as 'have been undeniably forged in the camp of the Philistines.'

We do the next opponent too much honor, by introducing him into our pages, and notice him not on his own account, but simply for the purpose of inserting the comments of the Bishop of St. David's, now of Salisbury, on a very contemptible performance, which bears upon its title-page the name of the Rev. Henry Norris, curate of St. John's, Hackney; purporting to be a Practical Exposition of the Tendency and Proceedings of the British and Foreign Bible Society;—of this wretched Exposition the learned prelate remarks, that he 'holds it to be a most unjustifiable attack on the Bible Society;' adding, that 'it is so destitute of the demonstration which it professes to give, so defective in its premises, so inconclusive in its inferences, and so reprehensible in its calumnies respecting the church members of the Society, that it might be left to its own refutation.' A few skirmishes

in the public journals, and a warfare of a somewhat graver character, employed the champions of the Bible Society, at distant intervals, till the death of the Rev. John Owen, which sad event took place at Ramsgate, September 26th, 1822, in the fifty-seventh year of his age. It was obvious to the friends of the institution, as it was undoubtedly felt with deep chagrin by its enemies, that it gained ground with every past assault upon its character, while the opposition to it, increasingly divested of its pretensions to reason, truth and piety, became more and more enfeebled; strong only in prejudice and malignity. Mr. Owen lived to effect one of the greatest works ever achieved by man; and he was permitted to see that work triumph over the most formidable hostility. He died in the hour of victory; nothing can better illustrate his character, than the just tribute of respect which was paid to his memory by the Rev. Joseph Hughes, one of his surviving colleagues. See 'Attachment to Life,' a Sermon on the Death of the late Rev. J. Owen, M.A.

Hitherto amidst unrivalled prosperity, the British and Foreign Bible Society, through evil report, and through good report, had maintained its undeviating majestic course. If a storm occasionally raged without, peace and harmony prevailed within. The numerous and diversified energies which it attracted, it also combined; and when a world rose up in arms against it, it was irresistible in its might. Having survived opposition, and humbled and silenced its most powerful adversaries, it was everywhere greeted with applause. It had nothing to do but to concentrate all its wonderful resources upon its direct and legitimate objects. The field was won, and now all that was required was its occupation. Under circumstances thus auspicious, how deeply is it to be regretted, that conflicting interests and opinions should have arisen to distract its operations, and almost to threaten its extinction. We trust that the day of extreme peril is past, and that the cause which has brought so many differing parties to coalesce, will at length allay the ferment which has been excited; and once more unite hearts, if it cannot reconcile opinions. We refer, and we do it with sincere pain, to the controversy in the Bible Society, respecting the Apocrypha: we think that there ought never to have been a question as to the simple and legitimate principle on which the Society was constituted. If the Bible was to be the band of union, and if, jealously to guard against the possibility of breaking it, the condition was subjoined that it should, in every case, be without note or comment; it surely never could have been in the contemplation of its original founders to circulate any thing but what was inspired, or, at least, accredited by all the parties united, as the word of God. The simple principle of diffusing the Scriptures alone was adopted, among other reasons, chiefly because it would for ever close the door of controversy, by leaving nothing to be discussed; because the Scriptures offered common ground which Christians of all denominations could occupy, without compromising their peculiar and respective tenets.

Now, we are of opinion, that a society thus constituted, has as much right to circulate Protestant prayer books, popish legends, and Hindoo shasters, as Jewish legends and apocryphal fables. That is, they have no right to do either; for when they circulate with the Scriptures, which all consider of equal authority, writings which one of the parties associated on the common principle deny to be sacred; they break faith with the public, and violate the solemn pledge which was laid down as the only foundation of their union. In this view the proceedings of the Committee of the British and Foreign Bible Society, in conniving at the circulation of the apocryphal books, or aiding that circulation with their funds, appears to us decidedly inconsistent. Still we think that men may be inconsistent, without being so far criminal as to justify the withdrawal from them of public confidence. The circumstances of the case would perhaps have betrayed their most violent censors into the same inconsistency; and from the implacable spirit which some of them have discovered, we fear they would not have retraced their steps with the same humility. We believe that the Committee have abandoned the Apocrypha altogether; and are well satisfied with the following resolution, dated November 21, 1825: 'That the funds of the Society be applied to the printing and circulation of the canonical books of Scripture, to the exclusion of those books, and parts of books, which are usually termed Apocryphal; and that all copies printed, either entirely or in part, at the expense of this Society, and whether such copies consist of the whole, or of one or more of such books, be invariably issued bound, no other book whatever being bound with them; and further, that all money grants to societies or individuals, be made only in conformity with the principle of this regulation.' We only wish they had never adopted any other. But we acquit them of all sinister intentions; we have still confidence in their principles and management; and we are happy to believe that the connexion of the Society with the circulation of the apocrypha, has chiefly been incidental, indirect, or owing to circumstances which the Committee believed they could not prevent or control. While therefore we applaud the vigilance which detected the evil, and still more the magnanimous zeal which first remonstrated with the offenders, and afterwards brought the whole under the review of the public; we must deeply regret the extreme intemperance of language and spirit, and the illiberal acrimony, amounting to uncivilised rudeness and anti-christian intolerance with which some of the best men upon earth have been treated by their brethren on the other side of the Tweed. We willingly turn from this unhallowed conflict, which we would gladly terminate by bringing the parties under the influence of that divine benevolence which first brought them to love each other. While it was one and undivided this institution was truly great; but must dwindle into useless insignificance the moment it ceases to be girt with that charity which is the bond of perfectness.

BIBLIA, or BIBLIA PETRARIA, in a military sense, a machine used by the ancients for throwing stones or darts.

BIBLIANDER (Theodore), professor of divinity at Zurich, in the sixteenth century. He attempted a new edition of the Koran; the text of which he corrected, by collating the Arabic and Latin copies. To this edition he subjoined the life of Mahomet and his successors; and prefixed an apology, by way of preface, which has been much exclaimed against.

BIBLICI. See BIBLISTÆ.

BIBLIOGRAPHY, from βιβλος, a book, and γραφω, to write, a name which has been recently employed both in Great Britain and on the continent, to comprehend every thing that relates to books; and as every branch of knowledge is contained in them, by a strange kind of reasoning, Bibliography is made to denote a science which comprehends all the other sciences. One modern writer on the subject prefers the more general term Bibliology, which he divides into seven different heads, viz. 1. Glossology or the knowledge of languages. 2. Diplomacy, or the knowledge of writings. 3. Bibliopeia, or the composition of books. 4. Typography, or the knowledge of printing. 5. Bibliopoly, or the knowledge of bookselling. 6. Bibliography, or the knowledge of books. 7. Universal Literary History. These various heads are branched out into innumerable subdivisions, embracing every subject to which the human mind has ever been directed.

Bibliography, in fact, to have any intelligible sense, should be confined to the bare description and arrangement of books, or the duty of an intelligent librarian. In such an arrangement it is certainly necessary to follow some general division of knowledge; but, for divers reasons, it cannot be proper to adopt that classification which results from a perfect acquaintance with the sciences. To consult the books of such a library it would then be requisite first to have read them. In the article LIBRARY we shall suggest some of the best practical considerations on this subject.

BIBLIOMANCY, divination performed by means of the Bible; otherwise called sortes biblicæ, or sortes sanctorum. It consisted in taking passages at hazard, and drawing indications thence concerning things future. It was much used at the consecration of bishops. It was a practice adopted from the heathens, who drew the same kind of prognostication from the works of Homer and Virgil. In 465 the council of Vannes condemned whoever practiced this art to be cast out of the communion of the church; as did the councils of Agde and Auxerre. But in the twelfth century we find it employed as a mode of detecting heretics.

In the Gallican church it was long practised in the election of bishops; children being employed, on behalf of each candidate, to draw slips of paper with texts on them, and that which was thought most favorable decided the choice. A similar mode was pursued at the installation of abbots, and the reception of canons: and this custom is said to have continued in the cathedrals of Ypres, St. Omcr and Boulogne, so late as the year 1744. In the

Greek church we read of the prevalence of this custom so early as the consecration of Athanasius, on whose behalf the presiding prelate, Caracalla, archbishop of Nicomedia, opened the gospels upon the words, 'For the devil and his angels.' Matt. xxv. 41. The bishop of Nice first saw them, and adroitly turned over the leaf to another verse, with was instantly read aloud: 'The birds of the air came and lodged in the branches thereof.' Matt. xiii. 32. But this passage appearing irrelevant to the ceremony, the first became gradually known; and the historian who has recorded the fact, remarks, that the church of Constantinople was violently agitated by the most fatal divisions during the patriarchate! Mr. Southey tells us, that both the celebrated founders of Methodism, Mr. Wesley and Mr. Whitfield, occasionally practised this method of deciding upon some of their earlier religious plans. For another kind of Bibliomancy, not very dissimilar, the כול Bath-Kol, or daughter of the voice, in use among the Jews, See BATH-KOL.

F. J. Davidius, a Jesuit, has published a Bibliomancy under the borrowed name of Veridicus Christianus.

BIBLIOMANIA, an extravagant passion for books, and particularly those called curious or rare, from whatever cause; or a desire for accumulating them beyond all reason and necessity; a passion at once well satirised and stimulated in the productions of the author of a modern work under this title.

BIBLIOTHECA, from βιβλος, a book, and θηκη, repository, properly signifies a library, or repository of books.

BIBLIOTHECA, in literature, denotes a collection of the treatises of various writers on a certain subject: thus, we have historical bibliothecæ, as that of Diodorus Siculus; mythological bibliothecæ, as that of Apollodorus; theological and sacred bibliothecæ, as those of Ravenellus; the Bibliotheca Veterum Patrum, or collection of the works of the early Fathers of the Christian church, published by Duport and others at Lyons, in 1677, in thirty folio volumes, &c. It is also used for a catalogue of the books in a library: such are the Bibliotheca Thuanæa, Bibliotheca Du-Boisiana, &c.

BIBLIOTHECA, in sacred literature, is applied to the books of the Old and New Testament, in respect to their excellency, and sufficiency for the uses of the Christian life.

BIBLIOTHECARIAN, or BIBLIOTHECARY, a librarian, or keeper of a library. The word is also used for the author of a bibliotheca, or a catalogue of books. In this sense P. L'Abbe, Gesner, Lipenius, Struvius, Fabricius &c. are celebrated bibliothecarians.

BIBLIOTHECARY, } βιβλιον, a book, and
BIBLIOTHE'TICAL, } θηκη, a depository; a
BIBLIOTHE'KE, } place where books are
BIBLIOT'LATRY. } deposited. The library *bibliothecary* is a librarian; *bibliolatry* is book idolatry.

What I said in my epistle to my reverend friend and master, Doctor James, the incomparably industrious and learned *bibliothecary* of Oxford, I profess still; but I hold those canons of the apostles uncanonical. Hall.

This invention of erecting libraries, especially here at Rome, came from Asinius Pollio, who, by dedicating his *bibliothèque*, containing all the books that ever were written, was the first that made the wits and workes of learned men a publicke matter, and a benefit to a commonweale. *Holland. Plinie.*

If to adore an image be idolatry,

To deify a book is *bibliolatry*.

Byron.

BIBLISTÆ, or **BIBLISTS**, an appellation given by Romish writers to those who profess to adhere to Scripture alone as the sole rule of faith, exclusive of all tradition, and the supposed authority of the church. In this sense, all Protestants are, or ought to be, biblists. The word among Christians, answers nearly to caraites or textuaries among the Jews. But it arose more particularly from the doctors being divided, towards the close of the twelfth century, into two classes, viz. the biblici, and the scholastici; the former were called doctors of the sacred page, because they explained the doctrines of Christianity in their manner by the sacred writings; their reputation, however, declined, and the scholastic theology prevailed in all the European universities till the time of Luther.

BIBLUS, βιβλος, in botany, an aquatic plant in Egypt, called also papyrus, of whose skin the ancient Egyptians made paper. Hence the Greeks gave the denomination of βιβλος to books.

BIBRACTE, in ancient geography, a citadel of the Ædui, according to Strabo; but Cæsar describes it as a town well fortified, large and populous, and of the greatest authority among that nation. Some consider it to be Autun, others, Beurect, or Bevray, four miles north-west of Autun, in the department of the Saone and Loire.

BIBROCI, an ancient people of Britain, who inhabited that part of Berkshire, now called the Hundred of Bray.

BICANERE, a principality in the north-west of Hindostan, the precise dimensions and limits of which are scarcely ascertained. It extends from about 27° 40' N. lat. to 29° 45', and from 72° 10' to 74° 15' E. long.; and its superficial area probably amounts to about 17,000 square miles. It is bounded on the north by the country of the Batties; on the east by the territories of Hurrianah and Shekhawuttee, in the province of Delhi; on the south-east by Jeypour; on the south-west by Jesselmere; and on the west by Bahawalpoor. This country is, in general, a sandy plain, and water extremely scarce; but, as this circumstance constitutes a means of defence against invaders, it is tolerably well cultivated, and produces camels and sheep. The rajah is of the Rajpoot tribe, tributary to the Jondpore rajah, though his subjects are principally Jauts. Vast tracts are occupied with hills and valleys of loose heavy sand; the former from twenty feet to 100 in height, shifting their position and altering their shape according to the influence of the wind; and, during summer, the moving sand frequently exhibits the phenomenon of the mirage, or threatens to overwhelm the exhausted traveller. But in the midst of arid tracts, the water-melon, a juicy fruit, grows in profusion, attaining the remarkable size of three or four feet in circum-

ference. The seeds are sown by the natives, and also grow wild. Water seems to be obtained only at immense depths.

The wild ass, famous for its speed and shyness, is often found here in herds. Antelopes and foxes are also seen in some parts. Of domesticated animals, horses, bullocks, and camels, are in great abundance; especially the last. The population is very scattered and uncertain. The rajah's military force amounts to about 10,000 men.

BICANERE, the capital of the above district, is spacious and well built. It is surrounded by a wall and encompassed by a broad and deep ditch. Long. 73° 30' E., lat. 28° 55' N.; from 270 to 280 miles north-west of Delhi.

BICALCARATUS, in zoology, a species of pavo; color, brown; the head slightly crested, and two spurs on each leg. This is pavo Chinnensis of Brisson; l'eperonnier of Buffon; petit paon de Malacca of Sonnerat; and iris peacock of Latham.

BICARINATA, in zoology, a species of lacerta, with a tail compressed, and carinated above; and four rows of carinated scales on the back, of a gray color, and is found in South America and India.

BICAUDA, from bis, double, and cauda, tail, in ichthyology, the name of a well tasted fish of the genus of xiphias. It is five feet long, or more, and a foot and a half broad at the breast, tapering gradually towards the tail: covered with a thick and rough skin, brown on the back and sides; and has three short bony prickles. Its belly is white; its fins of a brownish gray, and the back one has several beautiful black spots.

BICAUDALIS, in anatomy, an appellation given by some to a muscle of the external ear, on account of its having two tails; but which is subject to great variety, having sometimes only one, and sometimes three tails; in which cases it is called intricalis and tricaudalis.

BICAUDALIS, in ichthyology, a species of ostracion, of a triangular shape, with two subcaudal spines and ten rays in the dorsal fin.

BICE', *n. s.* The name of a color used in painting. It is either green or blue.

Take green *bice*, and order it as you do your blue *bice*; you may diaper upon it with the water of deep green. *Peacham.*

BICE, or **BISE**, in painting, is a color prepared from the lapis armenus. It bears the best body of all bright blues used in common work, as house-painting, &c. but it is the palest in color. It inclines to be a little too sandy, and therefore requires good grinding. Next to ultramarine, which is too dear to be commonly used, it lies best near the eye of all other blues.

BICEPS, the name of several muscles; as the biceps humeri or cubiti, biceps tibiæ, &c. See **ANATOMY**.

BICESTER, **BISSETER**, or **BURCHESTER**, a well built and ancient town of Oxfordshire, on the road between Oxford and Buckingham, about twelve miles from each, and fifty-five from London. It is noted for its good malt-liquor, and its lace. It has a market on Friday, and several sheep fairs. Inhabitants about 2600.

BICHAT (Maria Francis Xavier), a French

physician of considerable eminence, who was born in 1771, and died, much regretted, in 1802. He was a pupil of the celebrated Desault, and wrote, 1. *Recherches Physiologiques sur la Vie et la Mort*, 8vo. 1801. 2. *Anatomie Generale appliqué à la Physiologie*, &c. 4 vols. 8vo. Paris, 1801.

BICHET, a quantity or measure of corn, which differs according to the places where it is used. The bichet is not a wooden measure, as the minot at Paris, or the bushel at London, but is compounded of several certain measures. It was used in many parts of France, &c.

BICHET denotes, also, a certain quantity of land, as much as may be sown by a bichet of corn.

BICINCTA, in entomology, a small species of vespa; color black, thorax spotted, with two yellow bands on the abdomen: found at the Cape of Good Hope. Also a species of *tenthredo*: body black, two belts on the abdomen: mouth and shanks yellow: a native of Europe.

BICINUM, from bis, and cano, to sing, in church music, the singing of two, either together or alternately.

BICIPITAL, *adj.* } *Biceps, bicipitis*, Lat.
BICIPITOUS, *adj.* } Having two heads. It is applied to one of the muscles of the arm.

A piece of flesh if exchanged from the *bicipital* muscle of either party's arm. *Broun's Vulgar Errors*.

While men believe *bicipitous* conformation in any species, they admit a gemination of principal parts.

BICKER, } Probably of Ang.-Sax. ori-
BICK'ERER, } gin, *pycar*, to peck at, to be
BICK'ERING, } always attacking, skirmishing,
BICK'ERMENT, } or quarrelling. Skinner suggests the verb *pickeer* as the etymon; to fight with pikes or spears, and from the brandishing and glimmering flashing of these, perhaps is derived the application of the word to any thing that quivers, and is fitful, unsteady, giving a wavering light.

When that thine husbonde is to bed ygo,
 While that he slepeth cut his throte atwo;
 For in my dreame it is ywarned me,
 How that my newewe shall my bane ybe;
 But which In'ot; wherefore I woll be siker:
 If thou say naie, we two shall have a *biker*.

Chaucer. Legend of Hypermnestra.

When Artegall arriving happily,
 Did stay awhile their greedy *bickermēt*,
 Till he had questioned the cause of their dissent.

They fell to such a *bickering*, that he got a halting,
 and lost his picture. *Spenser.*

And from about him fierce effusion rowled
 Of smoke, and *bickering* flame, and sparkles dire. *Sidney.*

The *bickering* sabre's shivering jar—
 And pealing wide—or ringing near
 Its echoes on the throbbing ear;
 The death-shot hissing from afar—
 The shock—the shout—the groan of war—
 Reverberate along that vale,
 More suited to the shepherd's tale. *Milton.*

Byron. Giaour.

BICKERTON (Sir Richard), a brave English naval officer, was promoted to the rank of lieutenant on the 8th of February 1745. After several removals, he was appointed captain of the Glas-

gow of twenty guns, and ordered to the West Indies, where he greatly distinguished himself. In June 1773, when the king reviewed the fleet at Portsmouth, captain Bickerton steered his Majesty's barge, and on the 24th of the same month received the honor of knighthood on board the *Barfleur*. In 1777 he was appointed to the *Terrible* of seventy-four guns, one of the ships attached to the Channel fleet, and was present at the engagement with the count d'Orville, off Ushant, on the 27th of July. In May next year, he was ordered on a cruise in the bay, and had the good fortune to fall in with thirty French merchant-ships, richly laden, under convoy of three frigates. Eight of the trading vessels were taken; but the war ships and the remainder escaped. In 1782 Sir Richard sailed with a convoy to India, and arrived in time to join Sir Edward Hughes, and share in the encounter which took place with Suffrein, in June 1783; when the French, after an engagement of three hours, thought proper to haul off. Soon after this action, intelligence of peace arriving in India, hostilities ceased, and Sir Richard returned to England in 1784. In 1786 he was appointed commodore on the Leeward Island Station; from whence he returned as a passenger in September, 1787, and was promoted to the rank of rear-admiral of the blue. In 1790 he was made vice-admiral of the white, and appointed to command as port-admiral at Plymouth. He died on the 25th of February 1792; leaving his son, Sir Richard, a baronet, at that period rear-admiral of the blue; and in 1806, vice-admiral of the white.

BICKERTON'S ISLAND, an island of the South Pacific, in the nineteenth degree of south latitude, and 175th of west longitude. It was discovered by the Spanish captain Morello in 1781, and is called Lattai by the natives. It consists principally of a conical volcano, having its base covered with a fertile soil, and its sides clothed with forests. Its products are bananas and cocoa nuts. This is also a name given to a small island in the gulf of Carpentaria, about four miles from the shore of New Holland.

BICLINIUM, in Roman antiquity, a chamber with two beds in it; or a table with only two couches.

BICOLOR, in entomology (of two colors), the name of several different species of insects, according to Fabricius, Gmelin, and other writers, but which are too numerous to enumerate.

BICOLOR, in conchology, a species of *donax*, marked with elevated striæ, which decussate a few transverse ones; rufous, with a white ray on one side. Also a species of *pinna* found in the Red Sea. This is thin and inflected at the lateral margin; yellow, with dark brown rays, and a few longitudinal striæ.

BICOLOR, in ornithology, a species of *alcedo*; color green, and golden rufous beneath; a black and white waved band on the breast; the wings and tail spotted with white. A native of Cayenne. Also a species of *fringilla*; the Bahama sparrow of English writers; color, head and breast, black; back, wings, and tail, greenish; length four inches. Also a species of *lanius*, color blue; white beneath. This is *lanius Madagascariensis caruleus* of Brisson; *pie-griesche*

bleu de Madagascar of Buffon : and blue shrike of Latham. Also a species of *loxia* found in the East Indies only ; the brunor of Buffon. Also a species of *muscicapa*, a native of Guiana ; the black and white flycatcher of Latham.

BICOLORATA, in entomology, a species of *phalena geometra* ; wings blue and striated ; anterior pair black, spotted with white ; inhabiting Surinam. Also a species of *scarabæus melolontha* ; color green ; testaceous beneath ; legs tipped with gold.

BICORDATA, a species of cicada, ranatra ; wing-cases black on both sides ; a line in the middle ; the legs yellow. Inhabiting Carniola.

BICORNE, *adj.* ? Lat. *bicornis*, having two

BICORNOS, *adj.* 3 horns.

We should be too critical, to question the letter Y, or *bicornous* element of Pythagoras ; that is, the making of the horns equal. *Brown's Vulgar Errors.*

BICORNE Os, or two horned bone ; in anatomy, the same with the os hyoides.

BICORNES, an order of plants in the *fragmenta methodi naturalis* of Linnæus, so termed from the antheræ having in appearance two horns.

BICORNIS, in anatomy, an extensor muscle of the arm, otherwise denominated *radius externus*, and *extensor carpi radialis*.

BICORNIS, in natural history, a species of planaria, with an ovate-lanceolate obtuse body, of a grayish ash-color, dotted with black ; and two very short divergent tubes on the fore part. This is the *fasciola punctata* of Pallas. Also a species of actinia found in the North sea. This kind is hemispherical-oval, and glabrous with two horns.

BICORNIS, in entomology, a species of *scarabæus*, with two horns on the thorax ; a curved horn on the head, and rufous wing-cases. Inhabiting South America. Also the name of a species of *hispa*, *curculio*, *cassida*, *mantis*, *apis*, and *aranea*.

BICORNIS POLLICIS MANUS, the proper extensor muscle of the thumb ; also called *tricornis* ; and *abductor pollicis longus*.

BICORPORAL SIGNS, or **BICORPOREA SIGNA**, from *bis*, and *corpus* body ; in astronomy, those signs of the zodiac which have two bodies, or consist of two figures ; such as *gemini*, *pisces*, and *sagittarius*.

BICOSTELLA, in entomology, a species of *phalena tineæ*, found in Europe. Color cinereous, with a brown stripe on the anterior wings ; feelers advanced ; antennæ downy.

BID', } Sax. *biddan*. To desire ; to ask ;
BID'DER, } to call ; to invite ; to command ; to
BID'DING, } order ; before things or persons ;
to offer ; to propose ; as to *bid* a price ; to proclaim ; to offer ; or to make known by some public voice ; to pronounce ; to declare ; to denounce ; to pray. See **BEAD**.

Wondring upon this thing, quaking for drede,

She saide : Lord ! indigne and unworthy

Am I to thilke honour, that ye me bede.

Chaucer. Canterbury Tales.

Go ye into the highways, and, as many as you shall find, *bid* to the marriage. *Matt. xxix. 9.*

You are retired,

As if you were a feasted one, and not

The hostess of the meeting ; pray you *bid*

These unknown friends to 's welcome.

Shakspeare.

Saint Withold footed thrice the wold,

He met the nightmarc, and her nine fold,

Bid her alight, and her troth plight. *Id.*

I am *bid* forth to supper, Jessica ;

There are my keys. *Id. Merchant of Venice.*

Thyself and Oxford, with five thousand men,

Shall cross the seas, and *bid* false Edward battle.

Id. Henry VI.

Come, and be true.—

—Thou *bidst* me to my loss ; for true to thee

Were to prove false. *Id. Cymbeline.*

Or if the star of evening and the moon

Haste to thy audience, Night with her will bring

Silence, and deep listening to thee will watch,

Or we can *bid* his absence, till thy song

End, and dismiss thee ere the morning shine.

Milton.

If patiently thy *bidding* they obey,

Dismiss them not disconsolate ; reveal

To Adam what shall come in future days,

As I shall thee enlighten ; intermix

My covenant in the woman's seed renewed ;

So send them forth, though sorrowing, yet in peace.

Id.

She *bid* war to all that durst supply

The place of those her cruelty made die.

Waller.

To give interest a share in friendship, is to sell it by inch of candle ; he that *bids* most shall have it : and when it is mercenary, there is no depending on it.

Collier on Friendship.

When a man is resolute to keep his sins while he lives, and yet unwilling to relinquish all hope, he will embrace that profession which *bids* fairest to the reconciling those so distant interests. *Decay of Piety.*

'Tis these that early taint the female soul,

Instruct the eyes of young coquettes to roll,

Teach infants' cheeks a *bidden* blush to know,

And little hearts to flutter at a beau.

Pope's Rape of the Lock.

Our bans thrice *bid* ! and for our wedding day

My kerchief bought ! then pressed, then forced away.

Gay.

He looked upon several dresses which hung there, exposed to the purchase of the best *biddor*. *Addison.*

She [*Fancy*] *bids* the flattering mirror, formed to please,

Now blast my hope, now vindicate despair ;

Bids my fond verse the love-sick parley cease,

Accuse my rigid fate, acquit my fair.

Shenstone's Elegies.

BIDALDI, or **BIDARII**, an ancient kind of foot soldiers mentioned by the French historians, armed with two darts. Hence the original of the word, which seems to be a corruption of *bidardi*, or *à binis dardis*. They are also called *bidaus*, *bideaux*, *bidauts*, and *pitauts*.

BIDASSOA, or **VIDASSO**, a considerable river of Spain, which rises in the Pyrenees, and falls into the Bay of Biscay, between Andaye and Fontarabia. This river was long a subject of contention between France and Spain, but is now common to both nations. The duties paid by those passing from France to Spain belong to the latter, and by those who pass the contrary way to the former. At the mouth is the Isle of Pheasants, on which the peace of the Pyrenees was signed in 1659.

BIDDERMAN (John Gottlieb), was born at Naumberg in Germany, in 1705, and became rector of the college there. This he resigned for the more lucrative situation of rector of the public school at Friedburg in 1747, and continued

in its duties until his death in 1772. He was the author of several learned treatises, among which are, *De Latinitate Maccaronicâ*; *Acta Scholastica*, in eight volumes; and *Selecta Scholastica*, in two; *De arte Obliviscendi*; *De Insolentia Titulorum Librarium*; *De Religione Eruditorum*, &c.

BIDDEFORD, a port of entry, and post town, of the district of Maine, North America, situated in York county, at the mouth of Saco river. It is 105 miles from Boston, and 452 from Philadelphia.

BIDDEFORD, a sea-port and post town of the United States of America, in the province of Maine, containing above 1000 inhabitants, and 105 miles from Boston.

BIDDEFORD, or **BIDEFORD**, a market and sea-port town of Devonshire, seated on the river Torridge, near its junction with the Taw, over which there is a good stone bridge of twenty-four arches. It is a large and populous place, and carries on a considerable trade, principally to the West Indies and America; it is also engaged in the Newfoundland fisheries. The custom-house is a good building, opposite a noble quay, where ships of large burden may unload. Oak bark is exported here in considerable quantities. Carpet, woollen, and earthenware manufactures are established in the town, and the neighbourhood abounds with fine timber. The church was twice enlarged during the last century, and here are two respectable dissenting chapels. It is governed by a mayor, recorder, seven aldermen, and ten capital burgesses, who, in the reign of Edward I. and II., sent two members to parliament; but the poverty of the place shortly after induced the inhabitants to decline this burden. The market is on Tuesday, and well supplied with corn, cattle, and provisions. It is thirty miles north of Exeter, and 201 west from London.

BIDDING is also used for proclaiming or notifying. In this sense we meet with bidding of the bands, the same with what is otherwise called asking.

BIDDING, or **OFFERING**, denotes the rising price of a thing at a sale or auction. The French call it *encherir*. It answers to what the Romans call *licitari*; they used to bid by holding up the hand or finger.

BIDDING OF THE BEADS. See **BEADS**.

BIDDING PRAYER. It was a part of the office of the deacons in the primitive Christian church, to be monitors and directors of the people in their public devotions. To this end they used certain forms of words, to give notice when each part of the service began. This was called by the Greeks *κηρυττεν*, and by the Latins *prædicare*: which therefore do not ordinarily signify to preach, as some suppose, but to perform the office of a crier (*κηρὸς*, or *præco*) in the assembly: whence Synesius and others call the deacons *ιεροκηρυκτες*, the holy criers of the church, appointed to bid or exhort the congregation to pray and join in the several parts of the service of the church. Agreeably to this ancient practice is the form, Let us pray, repeated before several of the prayers in the English liturgy.

BIDDLE (John), one of the most eminent writers among the English Socinians, was born

at Wotton-under-Edge in Gloucestershire, and educated in the free school of that place. He was here particularly noticed by George Lord Berkeley, who allowed him an exhibition of £10 a year. While at school he made a translation of Virgil's *Bucolics*, and of the first two *Satires* of Juvenal. At thirteen he was sent to Oxford, and entered a student in Magdalen-hall. In 1641 the magistrates of Gloucester chose him master of the free school there, and where he was much esteemed; but contracting some opinions concerning the Trinity different from those commonly received, and expressing his thoughts with freedom, he suffered various persecutions and imprisonments in the time of the Commonwealth. During one of these confinements, which lasted for several years, being reduced to great indigence, he was employed by Roger Daniel of London, to correct the impression of the Greek Septuagint Bible, which that printer was about to publish. In 1651 the parliament published a general act of oblivion, which restored him to liberty. He was however afterwards imprisoned on account of his tenets; and the Protector, in October, 1655, seems to have doomed him to be confined for life in St. Mary's castle, in the Isle of Scilly. Soon after, he was allowed 100 crowns a year for subsistence. But in 1658 he was again at liberty. After the Restoration, he was fined £100 for preaching, and each of his hearers £20, or to lie in prison till the fines were paid; which being put in execution, Biddle contracted a jail distemper, of which he died 22d Sept. 1662, in the forty-seventh year of his age. His life was published in Latin in 1682, by Mr. Farrington, who represents him as possessed of extraordinary piety, charity, and humility. He would not discourse, we are told, of those points, in which he differed from others, with those that did not appear religious according to their knowledge; and was a strict observer himself, and a severe exacter in others, of reverence in speaking of God and Christ. He had so happy a memory, that he retained word for word nearly the whole New Testament, not only in English, but in Greek.

BIDE, } Sax. *bīan*. To endure; to suf-

BID'ING, } fer: commonly to *abide*; to dwell; to live; to inhabit; to remain in a place; to continue in a state. It has probably all the significations of the word *abide*.

Certes your strife were easie to accord,
Would ye remit it to some righteous man,
Unto yourselfe, said they! We give our word
To *bide* what judgment ye shall us afford. *Spenser*.
And they also, if they *bide* not still in unbelief,
shall be grafted in. *Romans*, xi. 23.

Safe in a ditch he *bides*,
With twenty trenched gashes on his head,
The least a death to nature.

Shakspeare. Macbeth.

Who of all ages to succeed, but feeling
The evil on him brought by me, will curse
My head? Ill fare our ancestor impure,
For this we may thank Adam; but his thanks
Shall be the execration; so besides
Mine own that *bide* upon me, all from me
Shall with a fearful flux on me redound;
On me as on their natural centre light,
Heavy though in their place. *Milton*.

The wary Dutch this gathering storm foresaw,
And durst not *bide* it on the English coast. *Dryden.*

BIDENS, in botany, water hemp-agrimony : a genus of the polygamia æqualis order, and syngenesia class of plants ; ranking in the natural method under the forty-ninth order, compositæ oppositifoliæ. The receptacle is paleaceous ; the pappus with erect scabrous awns ; and the calyx imbricated. Of this genus Linnæus enumerates thirteen species, none of which appear to merit much notice, except the tripartita, found by the sides of rivulets, ditches, and lakes, both in Scotland and England. It grows to the height of two feet, and has its leaves divided into three or often five, lanceolate serrated lobes, with yellow flowers. A decoction of it with alum, dyes yarn of a yellow color. The seeds have been known sometimes to destroy the cyprinus auratus, or gold fish, by adhering to their gills and jaws.

BIDENS, in conchology, a species of mytilus, dentated and slightly curved, having the posterior margin inflected, and the hinge bidentated. A native of the Mediterranean and Atlantic. Also a species of nerita, smooth, and inner lip bidentated. This shell is black, reddish, or sometimes yellow, clouded with whitish, with three black bands.

BIDENS, in entomology, a species of scarabæus, found in America. The head and thorax are brassy-green and downy : wing-cases testaceous, glossed with green. Also the name of a species of formica, vespa, cimex, sphex, mantis, curculio, and cassida.

BIDENTAL, } *Bis*, two, and *dens* a tooth,
BIDENTALE. } Latin, having two teeth.

All management of forks is not to be helped, when they are only *bidental*. *Swift.*

BIDENTAL, in Roman antiquity, a place blasted with lightning ; which was immediately consecrated with the sacrifice of a bidens. The place was afterwards accounted sacred, and it was unlawful to enter it or to tread upon it ; for which reason it was commonly surrounded with a ditch, wall, hedge, ropes, &c. See next article.

BIDENTALES, in Roman antiquity, priests instituted to perform certain ceremonies when thunder fell on any place. Their office was the sacrificing a sheep of two years old, which in Latin is called bidens ; whence the place struck with thunder obtained its name of bidental.

BIDENTATA, in entomology, a species of apis inhabiting America. The abdomen is brown, with five whitish belts ; vent bidentated. Also a species of phalæna noctua. A native of Europe ; wings brown ; a bidentated streak in the middle. Also a species of chrysis, a native of Europe. Color shining blue ; thorax armed with two teeth, and at the vent also are three short teeth.

BIDENTATUS, a species of hystrix ; color black and testaceous, and armed at the extremity with two hooked spines. Also a species of cryptocephalus crioceris. A native of Africa. Also a species of cerambyx found in South America. The thorax spinous ; wing-cases bidentated and brown. Also a species of ich-

neumon that inhabits Europe. Color black, and on the thorax are two teeth. Also a species of cimex spinosus, found only in France. Color brown ; thorax armed with two teeth on the anterior part beneath.

BIDENTES, in middle age writers, denotes two-yearlings, or sheep of the second year. The wool of these bidentes, or two-years-old sheep, being the first shearing, was sometimes claimed as a heriot to the king, on the death of an abbot. Among the ancient Romans, the word was extended further to any sorts of beasts used for victims, especially those of that age ; whence we meet with sues bidentes.

BIDET, a nag or little horse, formerly allowed each trooper and dragoon, for his baggage, &c. It has lately been applied to a convenient washing basin, across which the operator sits.

BIDIEL, an order of magistrates at Sparta, five in number, whose business was to superintend the ephebi, and be present at their exercises, wrestlings, &c.

BIDI-BIDI, in zoology, a name of the rallus Jamaicensis of Latham.

BIDIS, in ancient geography, a small city of Sicily, near Syracuse, whose ruins are still seen about fifteen miles to the south-west, with a church called S. Giovanni di Bidini.

BIDLAKE (Dr. John), was born in 1755 at Plymouth, and brought up at the grammar-school there, of which, having completed his education at Christ Church, Oxford, he was afterwards the high master. Three years before his death, he was seized with an epileptic fit in the pulpit, while delivering the Bampton lecture at St. Mary's, which terminated in the total loss of sight. In addition to the lecture above mentioned, he published an Introduction to Geography, 12mo. ; The Sea ; The Country Parson ; The Summer Eve ; The Year ; and Youth ; poems, separately printed in octavo, &c.

BIDLOO (Godfrey), author of several treatises in anatomy, was born at Amsterdam, March 12th, 1649. In 1688 he was professor of anatomy at the Hague, and in 1694 at Leyden, when king William III. of England appointed him his physician ; which he held with his professorship. He published in Latin, 1. The Anatomy of the Human Body, demonstrated in 105 cuts, explained by the Discoveries of the Ancient and Modern Writers. 2. An Oration upon the Antiquity of Anatomy. 3. A Letter to Anthony Leuwenhoeck on the Animals sometimes found in the Livers of Sheep, &c. 4. Two Decades of Dissertations in Anatomy and Chirurgery ; and other pieces. He died at Leyden in April, 1713.

BIDON, a liquid measure, containing about five pints of Paris, that is, about five quarts English wine measure. It is seldom used but among ships' crews.

BIDREAP, an old feudal service, by which a tenant was obliged to reap his landlord's corn.

BIE (Adrian de), an eminent painter, was born at Liere in 1594. After learning the rudiments of the art from different masters, he travelled to Rome, where he spent six years in studying the best masters. His industry was then rewarded with proportionable success ; for he found encouragement among the most honorable

persons at Rome, and in every part of Italy. His penciling was so exceedingly neat, and his touch and coloring so very delicate, that he was frequently employed to paint on jasper, agate, porphyry, &c.

BIEŁŹ, a town of Poland, in the palatinate of Cracovia, remarkable for its vitriol mines.

BIELAU, a considerable town of Silesia, in the circle of Reichenbach, containing between 6000 and 7000 inhabitants, who are chiefly employed in weaving serge, fustian, and muslin, and export great quantities. It contains several good houses, with four Catholic and Lutheran churches, and castle.

BIELEFELD, a town of the Prussian states, the capital of the county of Ravensberg, in the grand duchy of the Lower Rhine. There are 5500 inhabitants, who conduct flourishing manufactures of leather, soap, woollen stuffs, linen, and thread, along with excellent bleaching grounds. The trade in linen is large, and at one time brought yearly into circulation half a million dollars of foreign money. Twenty-two miles north of Lippstadt, and twenty-five east of Munster.

BIELGOROD, an old town of European Russia, near the southern borders of the government of Kursk. It was built by the grand duke Wladimir in 990; is an archbishop's see, and contains 9000 or 10,000 inhabitants, who carry on a good trade in honey, wax, tallow, leather, and soap. This town submitted to the arms of Potemkin in 1790, and is sixty-eight miles south-west of Kursk.

BIELLA, BIELA, or BIOGLIO, a small populous town of Piedmont, the capital of a small district, called from it the Biellese. It is partly on the summit, and partly on the declivity of a hill near the Cervo and Opora, and divided into Upper and Lower town, containing four churches and four monasteries. Population 8250. Twenty-four miles north-west of Vercelli, and thirty-five N. N. E. of Turin.

BIELO-OZERO, or BIELOSERSK, i. e. White Lake, a lake in the government of Novogorod, European Russia, so called from its bottom being of white clay. It is about thirty miles long, and eighteen broad, and receives a number of small streams; the Scheksna flows from it southward to the Volga. This lake abounds in fish; and on its south bank stands the town of Bielosersk.

BIELOPOLJE, a town of European Russia, in the government of Charkov, with 9050 inhabitants, who are engaged in agriculture and the distillation of brandy. Eighty-eight miles N. N. W. of Charkov, and 555 S. S. E. of St. Petersburg.

BIELOSERSK, a town in the government of Novogorod, European Russia, on the south bank of the lake of Bielo-Ozero. It is the capital of a circle, and consists of the fortress and the suburb; having 2800 inhabitants, who support themselves principally by fishing. Sixty-four miles north-east of Vologda, and 220 E. N. E. of Novogorod.

BIENNE, a district of Switzerland, between the lake of that name, and a branch of the Jura range of mountains. It was annexed to the canton of Bern by the congress of Vienna in 1815, and is in extent about 150 square miles; the

population nearly 6000. The bishop of Basle was the former sovereign, under whom it presented the phenomenon of a Protestant state, having a Catholic ruler; but his power was materially limited by the privileges of the people. Forming an important pass into Switzerland, it was early taken possession of by the French in 1798, and when annexed for awhile to their empire, was included in the department of the Upper Rhine.

BIENNE, or BIEL, the capital of the foregoing district, is situated on the Suss, at the northern extremity of the Bienné lake. It has about 2700 inhabitants, who carry on various manufactures of iron, wire, leather, and chintz. The town is about fifteen miles north-west of Bern.

BIENNE, LAKE OF, in the above district, is about nine miles long and four broad, lying north-east of that of Neufchatel, with which it is connected by the river Thielle. The scenery on both sides is highly picturesque, interspersed with vineyards, country houses, &c. The town of Nidau is a pleasing object on its eastern shore. Near the southern extremity is the island of St. Peter, sometimes called Rousseau's Island, from its having been the place of that philosopher's residence; who was so partial to this spot, that he deemed the two months he spent there, 'so happy,' he says, 'that he could have passed his whole existence there, without even a momentary wish for another situation.'

BIENNIAL, lasting or continuing two years; from *bis* two, and *annus* a year.

Then why should some be very long lived, others only annual or biennial? *Ray on the Creation.*

BIENNIAL PLANTS, plants that last only two years. Numerous plants are of this tribe, which, being raised one year from seed, generally attain perfection either the same, or in about the period of a twelvemonth (a little less or more), and the following spring or summer they flower, and perfect seeds; soon after which they commonly perish: or if any survive another year, they dwindle, and gradually die off; so that biennials are always in their prime the first or second summer. Biennials consist both of esculents and flower plants. Of the esculent kinds, the cabbage, savoy, carrot, parsnip, beet, onion, leek, &c. are biennials. Of the flowery tribe, the Canterbury bell, French honeysuckle, wall-flower, stock, July flower, sweet-william, China pink, common pink, matted pink, carnation, scabious, holly-hock, tree mallow, vervain mallow, tree primrose, honesty, or moonwort, &c. are all of this tribe; all of which being sown in March, April, or May, rise the same year, and in spring following shoot up into stalks, flower, and perfect seeds in autumn; after which most of them dwindle: though sometimes the wall-flowers, holly-hocks, carnations, and pinks will survive and flower the following year; but the plants become straggling, the flowers small and badly colored; it is therefore eligible to raise a supply annually from seed; although wall-flowers, carnations, and pinks may be continued by slips and layers.

BIER, Ang.-Sax. bæran, to bear; from to bear, as *feretrum*, in Latin, from *fero*. A car-

riage, or frame of wood, on which the dead are carried to the grave.

And now the prey of fowls he lies,
Nor wailed of friends, nor laid on groaning *bier*.
Spenser.

They bore him bare-faced on the *bier*,
And on his grave rained many a tear. *Shakespeare.*

He must not float upon his watery *bier*
Unwept. *Milton.*

No friend's complaint, no kind domestic tear
Pleased thy pale ghost, or graced thy mournful *bier*.
Pope.

But the white shroud, and each extended tress,
Long—fair—but spread in utter lifelessness,
Which late the sport of every summer wind,
Escaped the baffled wreath that strove to bind;
These—and the pale pure cheek, became the *bier*—
But she is nothing—wherefore is he here.
Byron's Corsair.

BIER, was in former times, more particularly used for that whereon the bodies of saints were placed in the church, and exposed to the veneration of the devout. This is also called, in middle-age writers, lectus, feretrum, lectica, and loculus; and was usually enriched with gold, silver, and precious stones.

BIERS, among the ancient Romans, were different according to the rank of the deceased. That whereon the poorer sort were carried was called sandapila; that used for richer persons, lectica, lectica funebris, sometimes lectus. The former was only a wooden chest, vilis arca, which was burnt with the body; the latter was enriched and gilded. It was carried bare, or uncovered, when the person died a natural and easy death; when he was much disfigured or distorted, it was veiled or covered over.

BIERON, or **BIHERON** (Mademoiselle), an ingenious Parisian lady, was born in 1719 and died in 1795. She studied most of the fine arts with success; but is chiefly deserving of notice for her knowledge of anatomy, and the curious models in wax of various parts of the animal structure, which, together with her paintings on vellum of subjects belonging to natural history, are preserved in the Museum of Natural History at Paris. The empress of Russia bought several for her cabinet, now in the Museum of Natural History at Petersburg.

BIEBOSCH, a lake or arm of the sea, between Dort and Gertruydenburg, in South Holland. It was formed by the bursting of the dykes in the year 1421, when seventy-two villages with their inhabitants (which, including the peasantry, are said to have been 100,000 in number,) were suddenly overwhelmed and destroyed. The only remains of this once fruitful tract are a few islands. It is supplied with water from the Maese, and gives rise to the broad water of Holland's-diep, or Haringsvliet.

BLESTING, *n. s.*, byrring, Saxon. The first milk given by a cow after calving, which is very thick.

And twice besides, her *blestings* never fail
To store the dairy with a brimming pail. *Dryden.*

BIETIGHEIM, a town and upper bailiwick of Wirtemberg, at the confluence of the Metter and the Enz. It is the seat of an ecclesiastical

superintendent, and contains 2200 inhabitants. Here is a handsome stone bridge across the Enz. The territory is fertile in wine and fruit: fifteen miles north of Stutgard, and thirty S. S. E. of Heidelberg.

BIFA'RIOUS, *adj.*, Lat. *bifarius*; twofold; what may be understood two ways.

BIFASCIANA, in entomology, a species of phalæna tortrix. The anterior wings, testaceous; two oblique bands, and mark at the apex, brown. Inhabiting Europe.

BIFASCIATA, in conchology, a species of bulla, somewhat tapering and white, with two broad reddish bands at the aperture. Also a species of cypræa, of an oblong form; color, purplish, with a straw-colored and narrow white band. Also a species of nerita: color, black; with two hoary bands and white tip. A native of India.

BIFASCIATUS, in entomology, a species of scarabæus that inhabits Coromandel: on the thorax is a triple protuberance, with an erect horn on the head; wing-cases, black; with two rufous bands. Also a species of dermestes, of a black color: a native of the Cape of Good Hope. Also a species of bostrichus, found in Siberia; color, black; wing-cases, yellow; with two bluish-black denticulated bands. Also a species of cryptocephalus, inhabiting Africa.

BIFASCIELLA, a species of phalæna, tineæ; wings, glossy; with two bands of white, the hinder one interrupted; head, rufous: a native of Denmark.

BIFERÆ, plants that flower twice a year, in spring and autumn, as is common between the tropics.

BIFEROUS, *adj.* Lat. *biferens*; bearing fruit twice a year.

BIFFA, in middle-age writers, a machine for casting stones and darts, having a movable counterpoise, which turned round its yard.

BIFID, *adj.* } Lat. *bifidus*, a botanical term;
BIFIDATED, } divided into two; split in two;
opening with a cleft.

BIFIDUS, in entomology, a species of cimex redivivus: color, black; with a rufous band on the wing-cases, and an erect bifid spine on the scutellum. Inhabiting China.

BIFOLD, *adj.* Lat. from *binus* and *fold*; twofold; double.

If beauty have a soul, this is not she;
If souls guide vows, if vows are sanctimony,
If sanctimony be the gods' delight,
If there be rule in unity itself,
This is not she: O madness of discourse!
That cause sets up with and against thyself!
Bifold authority. *Shakespeare. Troilus and Cressida.*

BIFORIS, in natural history, a species of echinus, having at the base five furrows, and ten flexuous radiated lines; and two oblong perforations near the vent.

BIFORM, } *Bis* and *forma*; double formed;
BIFORMITY, } having two shapes.

And from whose monster-teeming womb, the earth
Received what much it mourned, a *biform* birth.

Crowall. Ovid. Met.
Strange things he spoke of the *biformity*
Of the Dizonians. *More. Song of the Soul.*

BIFRONS, in entomology, a species of *brenatus*, inhabiting Cayenne: color, black; wing-cases, striated; with glabrous yellow spots. Also a species of *ichneumon*: color, black; the front, white, with a black spot beneath the antennæ. Also, in natural history, a species of *neris*, a native of the North Sea. It is depressed: peduncles, with a simple setigerous papilla, ciliated above. This creature is continually in motion; about an inch long, of a brownish color; head, white; eyes, four; cirri, seven; body, attenuated at both ends, and consisting of fifty-six joints.

BIFRONS, in ancient mythology, an appellation of Janus, who was represented with two faces, as being supposed to look both backwards and forwards, to time past and future; though other reasons for it are recited by Plutarch. Sometimes he was painted with four faces, and styled quadrifrons, as governing the four seasons.

BIFRONTED. Bis and frons. Having two fronts; double fronted.

Lictors, gag him: doe;

And put a case of vizards o'er his head,
That he may look *bifronted* as he speaks. *Ben Jonson.*

BIFURCATED, } Lat. from *binus* two, and
BIFURCATION. } *furca* a fork. Shooting
out by a division into two heads; divisions into
two; opening into two parts.

The first catachrestical and far derived similitude, it holds with man; that is, in a *bifurcation*, or division of the root into two parts. *Brown's Vulgar Errors.*

A small white piece, *bifurcated*, or branching into two, and finely reticulated all over. *Woodward.*

BIFURCATUS, in entomology, a species of *cimex oblongus*, inhabiting Germany: color, blackish; abdomen, pale yellow, and bifurcated.

BIG' v & adj. } *Big* may be a prefix to
BIG'GER, or } almost any thing. Its ety-
BIG'LY, } mology is uncertain; but its
BIG'NESS, } meaning, from usage, is ob-
BIG'BELLIED, } vious enough. Skinner de-
BIG'BONED, } rives it from *peg*, Danish,
BIG'NAMED, } which signifies the belly.
BIG-SOUNDING, } Perhaps, says the etymolo-
BIG'SWOLN, } gist in the Ency. Met. it is
BIG'UDDERED. } from the Ang.-Sax. *bycgan*,

byggan, to *big*, to build. Jamieson and Ritson both agree as to this usage of the word. However, it cannot be restricted to enlargement by building. It takes an infinitely wider range; thus it signifies comparative bulk, greater or less; teeming, pregnant, great with young, tumid, full of something, and desirous or about to give it vent; distended, ready to burst; used often to express the effects of any passion; great in air and mien; proud; swelling; consequential, not the ox which is great, but the frog that apes the ox; that would be great, but is only big; yet is it sometimes used in a better sense, as great in spirit; lofty; brave.

How else, said he, but with a good bold face,
And with *big* words, and with a stately pace?

Spenser.

If you had look'd *big*, and spit at him, he'd have
run. *Shakspeare. Winters' Tale.*

His gentle lady,

Big of this gentleman, our theme, deceased

As he was born.

J. Cymbeline.

What art thou? have not I

An arm as *big* as thine? a heart as *big*?

Thy words, I grant, are *bigger*: for I wear not
My dagger in my mouth.

Id.

Thy heart is *big*; get thee apart, and weep.

Id. Julius Cæsar.

When we have laugh'd to see the sails conceive,
And grow *bigbellied* with the wanton wind.

Shakspeare.

If panicm be laid below, and about the bottom of
a root, it will cause the root to grow to an excessive
bigness.

Bacon.

A bear *big* with young hath seldom been seen.

Id.

Lately on yonder swelling bush,

Big with many a common rose,

This early bud began to blush.

Waller.

Behold a wonder! they but now who seemed

In *bigness* to surpass earth's giant sons,

Now less than smallest dwarfs in narrow room

Throng numberless, like that pygmean race

Beyond the Indian mount.

Milton.

The *big-boned* ox, in pace is very slow,

And in his *travaile* step by step doth goe.

Geo. Wither.

In his prosperous season, he fell under the reproach
of being a man of *big* looks, and of a mean and ab-
ject spirit.

Clarendon.

To grant *big* Thraso valour, Phormio sense,

Should indignation give, at least offence.

Garth.

Would'st thou not rather choose a small renown,

To be the mayor of some poor paltry town;

Bigly to look, and barbarously to speak;

To pound false weights, and scanty measures break?

Dryden.

We pursued our march, to the terror of the market
people, and the miscarriage of half a dozen *bigbellied*
women.

Addison.

The great, the important day,

Big with the fate of Cato and of Rome.

Id.

Might my *bigswoln* heart

Vent all its griefs, and give a loose to sorrow.

Id.

A troubled ocean, to a man who sails in it, is, I
think, the *biggest* object that he can see in motion.

Spectator.

Several sorts of rays make vibrations of several
bignesses, which, according to their *bignesses*, excite
sensations of several colours; and the air, according
to their *bignesses*, excites sensations of several sounds.

Newton's Opticks.

— her bosom heaved

Unwonted sighs, and stealing oft a look

Towards the *big* gloom, on Celadon her eye

Fell tearful, wetting her disordered cheek.

Thomson.

BIG, Scotch barley, a species of *Hordeum*,
which see.

BIG SANDY RIVER, a river of North America,
which separates the state of Virginia from that of
Kentucky, and falls into the Ohio, in lat. 38° 30'
N. It is about sixty yards wide, and navigable
for sixty miles. Little Sandy River falls into the
Ohio, about twenty miles west of Big Sandy
River.

BIGA, in antiquity, a chariot drawn by two
horses abreast. Chambers observes it ought rather
to be written *Bigæ*, in the plural; being
derived from *bijuga*, two horses joined by a
jugum, or yoke. Chariot-races, with two horses,
were introduced into the Olympic games in the
ninety-third Olympiad: but the invention was
much more ancient, as we find that the heroes in

the Iliad fight from chariots of this kind. The moon, the night, and the morning, are by mythologists supposed to be carried in bigæ, the sun in a quadriga. Statues in bigæ were at first only allowed to the gods, then to conquerors in the Grecian games; under the Roman emperors, similar statues, with bigæ, were decreed to great and well-deserving men, as a kind of half triumph, being erected in most public places of the city. Figures of bigæ were also struck on their coins.

BIGÆ, BIGATA, or BIROTA, in writers of the middle age, a cart with two wheels.

BIGAM, } Δις and γαμεω, twice and to
BIGAMOUS, } unite in marriage. A bigame,
BIGAMIST, } is either a man or woman
BIGAMY, } who has been twice married, whether the first spouse be living or not. This is the precise meaning of the word; but it is now applied only to those who have contracted matrimony twice, and where all the parties are alive. This is both a civil and canonical offence.

A beauty-waning and distressed widow
Seduced the pitch and height of all his thoughts
To base declension, and loathed bigamy.

Shakspeare.

Randal determined to commence a suit against Martin, for bigamy and incest. *Arbutnot and Pope.*

By the papal canons, a clergyman that has a wife, cannot have an ecclesiastical benefice; much less can a bigamist have such a benefice according to that law.

Ayliffe.

Bigamy, according to the canonists, consisted in marrying two virgins successively, one after the other, or once marrying a widow.

Blackstone's Commentaries.

BIGAMY properly signifies being twice married, but with us is used as synonymous to polygamy, or having a plurality of wives at once. Such second marriage, the former husband or wife being alive, is simply void, and a mere nullity, by the ecclesiastical law of England; and yet the legislature has thought it just to make it felony, by reason of its being so great a violation of the public economy and decency. Whatever specious reasons may be urged for it in eastern nations, it never obtained in this part of the world, even from the time of our German ancestors, who, as Tacitus informs us, 'prope soli barbarorum singulis uxoribus contenti sunt.' It is therefore punished by the laws both of ancient and modern Sweden with death. And in Britain it is enacted by stat. 1 Jac. I. c. 11, that if any person being married, do afterwards marry again, the former husband or wife being alive, it is felony, not within the benefit of clergy. The first wife in this case shall not be admitted as an evidence against her husband, because she is the true wife; but the second may, for she indeed is no wife at all: and so vice versa, of a second husband. The 18 Eliz. c. 7, s. 2 and 3 (a statute not noticed by Blackstone), inflicts the punishment of branding in the hand, and imprisonment for any term not exceeding one year; and by 35 Geo. III. c. 67, s. 1. bigamy is subjected to the same punishments with grand or petit larceny, the effect of which is, that the burning in the hand may be commuted for seven years' transportation, and the limit to the duration of the

imprisonment is wholly taken away. The statutes, however, against second marriages, excepts persons whose first husband or wife has been absent for seven years, without the knowledge of the party remarrying, though that absence be within the king's dominions; or has been absent out of the kingdom, whether with or without the knowledge of the party remaining in England. It is also no offence to marry during the life of a first husband or wife, where there has been a divorce of a former marriage; or where that marriage has been declared void by sentence of an ecclesiastical court.

BIGARII, in antiquity, the drivers of BIGÆ, which see.

BIGATI, in antiquity, a kind of ancient Roman silver coins, on one side whereof was represented a biga, or chariot drawn by two horses. The bigatus was properly the Roman denarius, whose impression, during the times of the Commonwealth, was a chariot driven by Victory, and drawn either by two horses or four; according to which it was either denominated bigatus or quadrigatus.

BIG-BONE CREEK, a river of Kentucky, which falls into the Ohio, so named from the large bones found near it.

BIGGA, a small island of Scotland, in Yell Sound, among the Northern Shetland Isles: one half of it belongs to the parish of Delting, and the other to that of Yell.

BIGGAR, a parish of Scotland, in the county of Lanark, about six miles long from east to west, and three and a half broad from south to north, forming a kind of irregular oval. The tradition is, that a battle was fought near it between the Scots under Sir William Wallace, and an English army of 60,000 men, wherein great slaughter was made on both sides.

BIGGIN. Fr. *beguin*. A child's cap, says Dr. Johnson. Beguins, from whence it is derived, were an order of nuns, who wore the peculiar kind of cap, which has obtained this designation.

Sleep now!

Yet not so sound, and half so deeply sweet

As he, whose brow with homely *biggin* bound,

Snores out the watch of night.

Shakspeare.

You that have sucked the milk of the court, and from thence have been brought up to the very strong meats and wine of it; been a courtier from the *biggin* to the nightcap (as we may say); and you, to offend in such a high point of ceremony as this? and let your nuptials want all marks of solemnity.

Ben Jonson.

Mr. Gifford interprets the phrase from 'the *biggin* to the nightcap,' from infancy to age.

BIGGLESWADE, a market town of Bedfordshire, on the river Ivel, over which there is a handsome bridge. It was almost destroyed by fire in 1785, when property to the amount of £24,000 was consumed. The town, however, has been much improved since. It is one of the greatest barley markets in England. It is five miles south-east of Bedford, and forty-five north of London. Inhabitants, about 3000.

BIGHORN RIVER, one of the North American rivers, which rises in the Rocky Mountains, near the sources of the Plate and the Yellowstone, and having passed through the eastern

range of these mountains, joins the latter in the forty-seventh degree of latitude. It is navigable for canoes to a great distance, and flows through a fine open timber country.

BIGHT, *n. s.* It is explained by Skinner, the circumference of a coil of rope.

BIGLAND (Ralph), an English herald and topographer, was a native of Kendal in Westmoreland, and appointed garter king at arms in 1780. He died in 1784, having employed himself in making collections for a history of the county of Gloucester. His son Richard published from his MSS. in one volume folio, the first part of the *Antiquities of Gloucestershire*. 1792.

BIGNON (Jerome), a French writer, born at Paris in 1590. He made great progress under the care of his father, in philosophy, mathematics, history, civil law, and divinity. At ten years of age he gave the public a specimen of his learning, in a *Description of the Holy Land*; two years after he published a Discourse concerning the *Principal Antiquities and Curiosities of Rome*, and a Summary Treatise concerning the Election of Popes. Henry IV. now desired to see him, and appointed him page to the dauphin, afterwards Louis XIII. He wrote at this time a Treatise of the Precedency of the Kings of France, which he dedicated to Henry IV. who ordered him to continue his researches, but the death of that prince interrupted them. In 1613 he published the *Formulae of Marculphus*. He was, in 1620, made advocate general in the grand council, then counsellor of state, and at last advocate general in the parliament. In 1641 he resigned his offices in favor of his son, and was appointed chief keeper of the king's library. At last this great man, who had always made religion the basis of his virtues, died with the most exemplary devotion, in 1656, aged sixty-six.

BIGNONIA, in botany, trumpet flower, or scarlet jessamine: a genus of the angiospermia order and didynamia class of plants; ranking, in the natural method, in the fortieth order, personate: *cal.* quinquefid and cup-form: *cor.* bell-shaped at the throat, quinquefid, and bellied underneath. The siliqua, bilocular; and the seeds with membranous wings. Of this genus Linnæus enumerates seventeen species; of which the following are the most remarkable: 1. *B. catalpa*, a native of Carolina, Virginia, and the Bahama islands. It has a strong woody stem and branches, rising twenty feet high, ornamented with large heart-shaped leaves, five or six inches long. 2. *B. capreolata*, or tendril bignonia, a native of North America, a fine climber, which rises by the assistance of tendrils or claspers. 3. *B. radicans*, the climbing ash-leaved bignonia, is a native of Virginia and Canada. It rises thirty or forty feet high, having pinnated opposite leaves of four pair of serrated lobes, and an odd one. 4. *B. sempervirens*, or evergreen climbing Virginian bignonia, is a native of Virginia, Carolina, and the Bahama islands. 5. *B. unguis*, the claw-bignonia, a deciduous climber, is a native of Barbadoes and the other West India islands. It rises by the help of claw-like tendrils, the branches being very slender and weak; and by these it will overtop bushes, trees, &c. twenty or thirty feet high.

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BIGOIS, a nymph who is said to have written a book in the Tuscan language, concerning the Art of Interpreting Lightnings. This was kept at Rome, in the temple of Apollo, with others of a similar nature.

BIGORNEAU, in natural history, a name given by Bellonius to that genus of cochleæ, called the semi-circular mouthed, or semi-lunar kind, including the nerita.

BIGORRE, a former county of France, which now forms the department of the Upper Pyrenees.

BIGOT, **BIGOTED**, **BIGOTTICK**, **BIGOTTICAL**, **BIGOTRY**, } This word cannot be traced. It is supposed by Camden and others, to take its rise from some occasional phrase. The French apply it to one superstitiously religious, and to a hypocrite. A man devoted unreasonably to a certain party; prejudiced in favor of certain opinions; a blind zealot. It is used often with *to* before the object of zeal; as a *bigot to* the Cartesian tenets.

Presbyterian merit, during the reign of that weak, *bigotted*, and ill-advised prince, will easily be computed. *Swift.*

Bigoted to this idol, we disclaim Rest, health, and ease, for nothing but a name.

Garth.

In philosophy and religion, the *bigots* of all parties are generally the most positive. *Watts.*

Were it not for a *bigotry* to our own tenets, we could hardly imagine that so many absurd, wicked, and bloody principles should pretend to support themselves by the Gospel. *Id.*

I shall only, in one word, mention the horrid effects of *bigotry* and avarice in the conquest of Spanish America—a conquest, on a low estimation, effected by the murder of ten millions of the species.

Burke.

BIGOR, in Italian bignonia, is used to denote a Venetian liquid measure, containing the fourth part of an amphora, or half the boot.

BIGOT (Emeric), the son of John Bigot, Sieur de Sommeuil, one of the most learned and most honest men of the seventeenth century, was born at Rouen, in 1626. His love of learning diverted him from public employments. He applied himself solely to the sciences, and greatly increased the magnificent library left by his father. He had a weekly assembly of literati at his house, besides much correspondence with those abroad. M. Menage and Nic. Heinsius were his most intimate friends. He translated Palladius's *Life of St. Chrysostom* from the Greek; concerning which a curious anecdote is recorded in the *Hist. des Ouvrages des Scavans*, for Feb. 1690, p. 267. 'Mr. Bigot's design was to add the Epistle' from St. Chrysostom to 'Cesarius, which he had found in a library at Florence, to the *Life*—but it appeared so express against transubstantiation, that the examiners obliged him to suppress it'. He was very modest, and an enemy to controversy. He died at Rouen, December 28th 1689, aged sixty.

BIGOT (William), a learned French physician and philosopher, under Francis I., was born at Laval, in Maine, in 1502. He was unfortunate almost from his birth: fourteen of his family died of the plague, of whom his nurse was the last. The neighbours being afraid to take care of him,

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he was exposed by the side of a road under a hedge, and his father found him in this situation. As he grew up his education was neglected, and he early plunged into debauchery. He retired however into the country, where he acquired a relish for study; and without the assistance of instructors, made himself master of Greek, medicine, astronomy, and astrology, &c. He afterwards went to Germany, and was admitted professor of philosophy at Tubingen. Differing with the other professors, he returned to France, and was patronised by Mess. Du Bellai. He would have been promoted at the court of France, had he not incurred the displeasure of some person in the confidence of Francis I. The story as told by Melancthon, is, that Castellan represented him to that monarch, as an Aristotelian philosopher, and being asked by the king, what that was, replied he is one who prefers commonwealths before monarchies. Bayle, however, is at great pains to refute this story. Be that as it may, Bigot accepted an invitation to the university of Nîmes, where his zeal for its privileges raised him many new enemies, and while he went to Paris to get the dispute settled, new misfortunes occurred in his domestic affairs. In particular, his wife already the mother of two daughters, was detected in an amour with a musician, on whom our author inflicted the punishment of Abelard. For this his enemies attempted to bring him to capital punishment; but though long confined, he escaped; as did his wife during his imprisonment. He was the author of 1. *Christianæ Philosophiæ præludium*; 2. *Somnium ad Gul. Belaium, Mæcenatem snum*; 3. *Carmen ad Jesum Christum*; &c. &c.

BIGOTRY is always to be distinguished from an honest zeal, which is an ardor of mind arising from the love of truth, and exciting the possessor to defend and propagate what he considers its principles. Bigotry is prejudice combined with a degree of malignity, and mostly prevalent amongst the ignorant, and those who are naturally of a morose and contracted mind. It is generally manifested more in unimportant sentiments, or the circumstantialities of religion than the essentials of it. Simple bigotry is the spirit of persecution without the power; persecution is bigotry armed with power, and carrying its will into act. As it is the effect of ignorance, so it is the nurse of it, because it precludes free enquiry: it overlooks the liberty that all man have of thinking for themselves, cuts the very sinews of that charity which hopeth all things, and destroys moderation and good will.

BIG-ROCK BRANCH, the Ness-head branch of the river Allegany. The branch called Big-hole Town joins it, and forms the Allegany, eight miles north-east from and above Venango Foot.

BIGUBA, a small state and town of western Africa, situated on the northern bank of the Rio Grande, about fifty or sixty miles from its mouth.

BIGUTTATA, in entomology, a species of cantharis, found in Europe. The thorax black, wing-cases black, and yellow at the tip. This is *telephorus niger*, *femoribus flavis*, *elytris apice luteis* of Degeer. Also the name of a species of cicada and also sylpha.

BIGUTTATOR, a species of ichneumon; color black, with two dots on the scutel, native of Sweden.

BIGUTTATUS, a species of *curculio*, that is found in Germany. Also a species of *cryptocephalus*, native of Austria. Also a species of *carabus*, that lives under the bark of trees in Sweden.

BIGUTTULUS, a species of *gryllus locusta*; thorax cruciate, wing-cases clouded, and marked with a white spot near the tip. This is *acrydium biguttulum* of Degeer.

BIHACZ, a strong town of Hungary, in Croatia, seated in an isle formed by the river Unna.

BIHAMATA, in entomology, a species of *hispa*, of an oblong, depressed shape, unarmed, black, spotted with red, shells truncated and hooked, native of India.

BIHAR, a town and district of the eastern part of Hungary, bordering on Transylvania. It is partly a mountainous district, the plains are chiefly inhabited by Hungarians, and the hilly parts by Walachians. The former are esteemed superior both in purity of language and morals to the rest of their countrymen. The whole population is about 230,000.

BIJANAGUR, a city in the Balaghaut ceded territories, in the south of India, once the capital of a great Hindoo empire, but now in ruins. Its modern name is *ANNAGOONDY*, which see.

BJORE, an Afghan district of the province of Cabul, lying on the shores of the Indus. It contains eight extensive valleys, of which Rod is the largest. It is only partially possessed by the Yusefey tribe, many portions being occupied by the Mohmand, Sahi, Shinwari, and Turcalani tribes.

BJORE, the capital of the above district, is situated fifty-five miles from the river Indus. There is a tradition that the descendants of the Greeks, who accompanied Alexander to India, kept possession of this district for a considerable period. Long. 70° 43' E., lat. 34° 8' N.

BIJORKO, an island of Sweden, in the lake of Malar, on which there stood formerly a royal palace, and a small town. It is fifteen miles west of Stockholm.

BIJUGUM FOLIUM, in botany, denotes a winged leaf, bearing two pair of foliolæ.

BIL, in ichthyography, a name given in some parts of England to a peculiar species of cod-fish, called by Willoughby *asellus luseus*. It is distinguished from the cod by its smallness, by its being shorter and broader in its shape, by the paleness of its color, and largeness of its scales, though it agrees with it in having a beard under the chin.

BILANCIIS DEFERENDIS, a writ anciently directed to a corporation, for the carrying of weights to a haven, and there to weigh wool.

BILANDER, *n. s. Fr. belandre*; a small vessel of about eighty tons burden, used for the carriage of goods. It is a kind of hoy, manageable by four or five men, and has masts and sails after the manner of a hoy. They are used chiefly in Holland, as being particularly fit for the canals. *Savary, Trevour.*

Like *bilanders* to creep
Along the coast, and land in view to keep. *Dryden.*

BILANDER in navigation, a small merchant ship with two masts, distinguished from other vessels of the same kind by the form of the main-sail. Few vessels are now rigged in the manner of bilanders: the name has been variously applied in different countries.

BILARIUS PORUS, the biliary pore, or hepatic duct, a considerable appendage of the liver, formed from the concurrence of a multitude of small ramifications springing from its glands, which unite into several trunks equal in magnitude to the branches of the hepatic arteries; and accompany them branch for branch through the whole substance of the liver; being wrapped up in the same capsula with the porta.

BILATERAL COGNATION, denotes kindred, on both sides, that of the father as well as mother.

BILBERRY, *n. s.*, from Sax. *bilg*, a bladder and berry, according to Skinner; *vitis idæa*. A small shrub; and a sweet berry of that shrub; whortleberry

Cricket, to Windsor's chimneys shalt thou leap;
There pinch the maids as blue as *bilberries*. *Shakspeare*.

BILBILIS, in ancient geography, a town of Hispania Citerior, the birth place of Martial, now supposed to be Calataiud in Arragon.

BILBO, } A sword, or rapier; and
BILBOES, } also stocks for the feet;
BIL'BOESMITH. } used for punishing offenders
at sea, they derive their name from bilboa where they were manufactured; and bilbo is a corruption of bilboa.

To be compassed like a good *bilbo*, in the circumference of a peck, hilt to point, heel to head.

Shakspeare.

Methought I lay

Worse than the mutines in the *bilboes*.

Id.

BILBOA, formerly *BELVÃO*, the good ford, a town of Spain, the capital of Biscay Proper, having an excellent harbour at a short distance from the Bay of Biscay. It was built in 1300, on the margin of a navigable stream, by Diego Lopez de Haro, and soon became flourishing. The houses are well built, generally with projecting roofs, the streets paved and clean. Several canals pass through them, and convey water from the river. The population is about 15,000, who carry or an extensive commerce. Spanish wool of between 50,000 and 60,000 sacks, of two hundred weight each, have been sent out here in a year. Its other exports are iron, chestnuts, oil, and wine. Bilboa also imports salt, hemp, fish, materials for ship-building, colonial produce, British and French manufactures, drugs, &c. The number of vessels which annually enter the harbour is between 500 and 600. It stands fifty miles south of St. Sebastian, in lat. 43° 14' N, and long. 2° 42' W.

BILCOCK, in zoology, a synonyme of the *rallus aquaticus*, or water rail.

BILDAD, one of Job's four friends, is supposed to have been a descendant of Shuah, one of Abraham's sons by Keturah; as he is expressly styled a Shuhite. In his reasoning with Job, he proceeds upon the mistaken idea, that misfortune is always the attendant of criminality.

BILDGE, for *BILGE*, of a ship, the bottom of

her floor, or the breadth of the place the ship rests on when she is a-ground.

BILDGE-PUMPS, or burr-pumps, are those that carry off the bidge water.

BILDGE WATER, that which lies on the ships' floor, and cannot go to the well of the pump,

BILE'. See **BOIL**.

BILE'.

From *bilis*, Lat., and which **BIL'IARY**, } Vossius has no doubt is from
BIL'IOUS. } the Greek *χολη*.

The liver minds his own affair;
Kindly suppuess our publick uses;
And parts and strains the vital juices;
Still lays some useful *bile* aside,
To tinge the chyle's insipid tide:

Else we should want both gibe and satire;
And all be burst with pure good nature.

Prior.

Why *bilious* juice a golden light puts on,
And floods of chyle in silver currents run.

Garth. Dispensary.

Voracious animals, and such as do not chew, have a great quantity of gall; and some of them have the *biliary* duct inserted into the pylorus. *Arbutnot*.

The gall-bladder is a very remarkable contrivance. It is the reservoir of a canal. It does not form the channel itself, i. e. the direct communication between the liver and the intestine, which is by another passage, viz. the ductus hepaticus, continued under the name of the ductus communis, but it lies adjacent to this channel, joining it by a duct of its own, the ductus cysticus; by which structure it is enabled, as occasion may require, to add its contents to, and increase the flow of *bile* into the duodenum. *Paley's Theology*.

BILE, The fluid secreted by the liver. It varies in color and consistence in different animals, and in the same animals under different circumstances. Its appearance, however, for the most part is of a yellowish green, the shades on one side or the other predominating with irregularity; sometimes, indeed, it is nearly brown, and at other times almost colorless. Its taste is more or less bitter; the bile from the ox, which has been the principal subject of experiment, being exceedingly so, while human bile has much less of bitterness.

When, says Mr. Brande, the bile of the ox is distilled, it affords about 90 per cent. of insipid water; the residuum is brown, bitter, and may be redissolved in water: it affords traces of uncombined alkali, which appears to be soda. The acids render bile turbid, and separate from it a substance, which possesses many of the properties of albumen. It is likewise coagulated by alcohol; and upon filtering off the clear liquor, and evaporating it, an inflammable fusible substance is obtained, of an intensely bitter flavor, combined with a portion of soda and common salt: this has been termed the resin of bile, and appears to be the principle which confers upon it its chief peculiarities. We should, therefore, conclude, as the result of these observations, that bile consists of water, albumen, soda, a bitter resin, and some minute portions of saline matter.

Thenard has determined the composition of ox-bile, as follows; but the substance denominated picromel among the following items, is thought by Mr. Brande to be an educt rather than a product, since the process by which it was procured by Thenard is very complex:

Water . . .	700 or a little more
Resin . . .	24
Picromel . . .	60·5
Yellow matter . .	variable in this case 4
Soda . . .	4
Phosphate of soda .	2
Muriate of soda .	3·2
Sulphate of soda .	0·8
Phosphate of lime .	1·2
Oxide of iron . .	a trace.

Berzelius, in remarking upon this analysis, questions its accuracy altogether, and denies even the presence of resin in bile. This last chemist states the composition of the fluid in question to be as follows :—

Water . . .	907·4
Biliary matter . .	80·0
Mucus of the gall-bladder .	3·0
Alkalies and salts, common to all animal fluids	9·6
	<hr/> 1000

It ought to be recollected, in all experiments upon this fluid, that it is, as above intimated, very different even from the same subject at different times. Dr. Monro, jun. describes a very interesting case, showing that bile after a meal, is secreted in larger quantities than at ordinary times. 'I attended,' says he, 'a case in which there was an abscess in the liver, and a preternatural communication between that organ and the lungs, through which the bile was secreted, and discharged by coughing. The quantity thus discharged was very different at different times. It was always greater after meals, and especially for an hour or two after dinner.' Bichat, too, proved the same fact by experiment. This last physiologist says, 'that the bile which is secreted during abstinence, is divided between the duodenum and gall-bladder, and that the portion of it which goes into the latter, receives a more active character (un caractere d'acreté, une teinte foncée): it should be recollected too, that the secretion itself is much regulated and modified by varied conditions of the nervous power, and organic energies. This last particular is of course more applicable to bile from the human subject than to that from animals, whose existence is less complicated, and not so much under the influence of external circumstances.

Thenard states, that no picromel is traceable in human bile, and that no other ingredient can be found in it than yellow matter, albumen, resin, and saline substances; the extract from human bile, affords, however, precisely the same salts as are discoverable in that from the ox, viz., uncombined soda, muriate, sulphate, and phosphate of soda, phosphate of lime, and oxide of iron.

The bile of the dog, the sheep, the cat, and the calf, was found precisely like that from the ox. In the pig's bile, no picromel nor albumen, nor even yellow matter, was discovered. The bile of birds has a larger quantity of albuminous matter, and the picromel which it yields, is said to be not sensibly sweet, but possessed of a sharp and bitter taste.

The yellow matter appears to be that by which, with slight exception, the fluid under notice is principally characterised; and this matter seems

to be the same, from whatever species of animal the bile may have been taken. This is insoluble by itself, but becomes capable of solution, when combined with the other principles and ingredients of which the bile is composed. All acids decompose human bile.

How is bile formed? The liver is generally known to be the organ which secretes this fluid, although there are many among the lower tribes of animals that are furnished with a secretion answerable in its apparent qualities and purposes to bile, but in which no organ corresponding in structure and appearance with the liver has hitherto been detected; and in cases where, as in man, and the higher order of animals, this organ (the liver) is manifestly the organ by which the bile is formed, it does not seem to be ascertained with precision what is the actual portion of the organ that is destined for the purpose. The liver is remarkable for being furnished with a vessel (the vena portarum) by which venous blood is conveyed into its substance; while other organs of secretion are supplied only with arterious blood: it has hence been supposed that this venous blood is for the formation of bile, while that which is transmitted besides from the large artery of the liver (the hepatic artery) is intended for the nourishment merely of the viscus; and, to say the least, there seems to be some foundation for this hypothesis, although the inference from structure and apparent office is modifiable by circumstances, to which we shall advert in the articles *PHYSIOLOGY* and *MEDICINE*. It would seem to be pretty certain, that the actual secretion of the fluid takes place in that part of the liver's substance which is termed granular; but, as we have above intimated, the bile is different when it is poured out into the intestines from what it is when first formed; and the rationale of these changes will fall to be considered in other places, especially in those parts of our work to which we have just referred the reader.

Uses of the bile. The direct and obvious office, says a modern writer, of the liver is the secretion of bile, which in most animals is suffered to accumulate in a pear-shaped reservoir adhering to its concave surface, and denominated a gall-bladder. Yet in many animals, even of different classes, we perceive no such reservoir, as the elephant, rhinoceros, stag, camel, goat, horse, tricheus, porpoise, rat, ostrich, and parrot; while we do not know of a reptile that is destitute of it. In the human subject, it has also been wanting, of which Dr. Cholmely gives a singular example in the sixth volume of the *Medical Transactions*; but such a deficiency has only occurred in infants who have fallen victims to it soon after birth, before which period as there is no transit of feces through the intestinal canal, and perhaps no peristaltic action, it does not appear to be necessary.

Perhaps, indeed, antecedently to birth, there is no bile secreted. In the case related by Dr. Cholmely, although the whole of the bile, as fast as it was secreted, seems to have been carried back into the system, the sallowness of the skin is not noticed to have occurred till the day after birth, from which time the child exhibited a deeper and deeper hue, till it died of convulsions at the end of five weeks.

It has reasonably, therefore, been supposed that one chief use of the bile is to stimulate the lacteal vessels, and maintain the peristaltic action of the alvine canal. Yet in jaundice the lacteals perform their office, and in lientery the peristaltic action is peculiarly brisk, though the intestines are without this fluid. Hence, Dr. Fordyce regarded the bile as of no service whatever in the digestive process; and Sir E. Home has given an example of a child that fed heartily, seemed to digest the food well, and had regular stools, and was nevertheless without a gall-bladder, or even a duct of any kind leading from the liver to the duodenum; and however stimulant the bile may be to the coats and emunctories of the intestines, it has a sedative rather than a stimulant power upon the blood, and instead of rousing to additional energy, produces weariness and inactivity.

But recent experiments of Mr. Brodie have proved, that, whatever force there may be in some of the above objections, the main office of the bile is clearly to change the nutritious part of the chyme into chyle, and to separate from it the excrementitious matter. Mr. B. tied a ligature around the duct which leads from the liver into the intestines, and, in all the cases in which the experiment was made, it was found that the conversion of chyme into chyle (see CHYLE) was invariably and completely prevented; so that we are furnished with evidence of demonstrative force to show, that for the due nutrition of the system, as well as for the proper actions of the intestinal canal, the presence of the bile is absolutely necessary.

Mr. Brodie meets such objections as have been advanced above, and others, in the following way: 'If the bile be so essential, how is it that persons occasionally live a considerable time in whom the flow of the bile into the duodenum is interrupted? On this point it may be remarked, 1st. It seldom happens that the obstruction of the duct is so complete as to prevent the passage of the bile altogether; and the circumstance of the evacuation being of a white color in jaundice and other diseases, may prove the deficiency, but does not prove the total absence of bile. 2dly. That in the very few authenticated cases which have occurred of total obliteration of the duct in the human subject, there has been always, I believe, extreme emaciation, showing that the function of nutrition was not properly performed. 3dly. That the fact of individuals having occasionally lived for a few weeks or months under these circumstances, only proves that nutrition may take place to some extent without chyle being formed. In my experiments,' he adds, 'I found that the more fluid parts of the chyme had been absorbed, and probably this would have been sufficient to maintain life during a limited portion of time.'

For an account of Biliary calculi, see CALCULUS.

BILEDULGERID, or **BLAD AL JERID**, the country of dates, a district of Africa, south of Algiers. It is almost square, extending more than eighty leagues every way, from lat. 28° 30' to 32° 50' N., and from long. 6° to 12° W. It is bounded on the north by Tunis, on the east

by a ridge of lofty mountains which divide it from Tripoli and part of Gudamis, on the west by the countries of Zeb and Mezzeb, and on the south by the province of Verghela. This country is barren and mountainous, producing little beside dates, which grow here in such profusion, that the face of half the country is covered over with the trees. The climate is unhealthy, and the people lean, swarthy, and shrivelled; with their eyes inflamed, from the reflection of the sun-beams. The showers of dust and sand, driven by the high winds, frequently bury men and cattle in whole caravans. The inhabitants are also much afflicted with scurvy in the gums, &c. but they are remarkably free from other diseases. The plague is said not to be known in Biledulgerid. The tribes of this region are a mixture of Africans and wild Arabs: the latter, who pride themselves in their superiority of birth and talents, being quite independent, pursue scarcely any other occupation besides hunting ostriches and plundering. The Africans live with considerable regularity in small villages. Besides dates, and ostriches, the common food here is the flesh of goats and camels; drinking either the broth in which the flesh is boiled, or the milk of their camels; for they seldom taste water. There is scarcely a town in the whole country, or a stream of water that deserves notice.

BILFINGER (George Bernard), was born 23d January, 1693, at Canstadt, in Wirtemberg; and by a singularity of constitution, hereditary in his family, came into the world with twelve fingers and twelve toes, which an early amputation happily corrected. His father was a Lutheran minister, and from his earliest years discovered his great inclination to learning. He studied in the schools of Blaubeuern and Bobenhausen, and afterwards entered into the theological seminary of Tubingen. Here the works of Wolf inspired him with a taste for the Wolfian philosophy, and that of Leibnitz. He wished, at least, to try to connect theology with his favorite science of philosophy, and in this spirit composed a tract, entitled *De Deo, Anima, et Mundo*, a work which met with great applause, and contributed to the advancement of the author to the office of preacher at the castle of Tubingen. In 1719 he obtained from his friends a supply of money, which enabled him to spend some time at Halle, to pursue the lessons of Wolf, and after two years returned to Tubingen, only to find his lectures deserted, and himself shunned for his new notions. After this had lasted almost four years, he received an invitation to go to Petersburg, as professor of logic and metaphysics, and member of the new academy of Peter I. He was received in this city, where he arrived in 1725, with great consideration. The Academy of Sciences at Paris having proposed about this time the famous problem, on the cause of gravity, Bifinger gained the prize of a thousand crowns. This success drew the attention of all the learned of Europe to his name; and Charles Edward, Duke of Wirtemberg, finding that the author was one of his subjects, hastened to recal him. The czar, after having made some useless attempts to detain

nim, granted him a pension of four hundred florins, and a present of two thousand. He quitted Petersburg in 1731. Returning to Tübingen, the university greatly prospered under his care; and is said to be conducted to this day according to the excellent regulations he established. The duke appointed him in 1735 privy-counsellor, a nomination not simply honorary, for Bilfinger saw himself raised at once to considerable power. He now employed almost two years in laboring to understand the statistics of his country, its political situation, &c. and ultimately became one of the most enlightened ministers it ever produced. He was the author of that strict union which has long united Wirtemberg and Prussia, and of the importance to which the hereditary Prince of Wirtemberg was raised at Berlin. In 1737 the duke nominated him president of his consistory, and secretary of the grand order of the chase. He was also curator of the university of Tübingen, and member of the Royal Academy of Berlin. He was never married, and died at Stuttgart, the 18th of February, 1750. His works, besides papers published in the Memoirs of the St. Petersburg and Paris Academies of Science, are: 1. *Disputatio de Harmoniâ præstabilitâ*, Tübingen, 1721, in 4to. 2. *De Harmoniâ Animæ et Corporis Humani maximè præstabilitâ Commentatio Hypothesica*, Frankfort on the Maine, 1723, in 8vo. This work was inserted in the Expurgatory Index at Rome in 1734. 3. *De Origine et Permissione Mali, præcipuè Moralis, Commentatio Philosophica*, ib. 1724, in 8vo. 4. *Specimen Doctrinæ Veterum Sinarum Moralis et Politicæ*, Frankf. 1724, in 4to. 5. *Dissertatio Historico catoptrica de Speculo Archimedis*, Tübingen, 1725, in 4to. 6. *Dilucidationes Philosophicæ de Deo, Animâ Humanâ, Mundo, et Generalibus Rerum Affectionibus*, ib. 1725, in 4to. 7. *Bilfingeri et Holmanii Epistolæ de Harmoniâ Præstabilitâ*, 1723, in 4to. 8. *Disputatio de Naturâ et Legibus Studii in Theologiâ Thetici*, ib. 1731, in 4to. 9. *Disputatio de Cultu Dei Rationali*, ib. 1731. 10. *Notæ Breves in Ben. Spinosæ Methodum Explicandi Scripturas*, Tub. 1732, in 4to. 11. *De Mysteriis Christianæ Fidei Generatim Spectatis Sermo, Recitatus 1732*, Tub. 1732, in 4to. 12. *Elementa Physices*, Leipzig, 1742, in 8vo. 13. *La Citadelle Coupée*, Leipzig, 1756, in 4to.

BIL'GEN, *n. s.* } Gothic, *bulgia*, to swell;
BILGE', *v.* } that which bulges or bellies out; the bilge, according to Skinner, is the compass or breadth of a ship's bottom—her belly; to bilge, therefore, is when by any violence, such as striking on a rock, she opens her bulge or belly so as to let in the water; it is another term for springing a leak.

The next morning, at day-break, she (the *Wager*) struck on a sunken rock, and soon after *bilged*, and grounded between two small islands, at about a musquet shot from the shore.

Anson's Voyage round the World.

BILHAH, a city of the Simeonites, in Judea.

BILIMBI, in botany, a tree celebrated in the East Indies for its uses in medicine. European botanists call it *malus Indica*, fructu pentagona, or the Indian apple tree, with the five-cornered

fruit. It seldom grows to above twelve feet high, and is not commonly wild, but carefully cultivated in gardens, where it flowers all the year round. The juice of the root is drank as a cure for fevers. The leaves boiled, and made into a cataplasm with rice, are famed in tumors, and the juice of the fruit is used in almost all external heats. The fruit is pleasant to the taste when ripe, and is commonly eaten.

BILINGS-GATE, *n. s.*, a cant word, borrowed from Bilingsgate in London, a place where there is always a crowd of low people, and frequent brawls and foul language; ribaldry; foul language. See **BILLINGS-GATE**.

There stript, fair rhetorick languished on the ground,
 And shameful *bilingsgate* her robes adorn. *Pope.*

BILINGUIS, properly denotes, 1. A person who has two tongues in his mouth; an instance of which is given by Dolæus. 2. A person who speaks two languages. It is in law applied to a jury impanelled between an Englishman and a foreigner, which should consist half of foreigners and half of Englishmen.

BILIN, a town of Bohemia, in the circle of Leitmeritz, near a mountain of the same name, remarkable for the variety of herbs found on it, as well as for stones and metals. Here is also a mineral spring. It is seventeen miles west of Leitmeritz.

BILINEATA, in entomology, a species of leptura; color blackish-brown, with two lines on the thorax, and scattered dots on the yellow wing-cases: inhabiting Carniola. Also a species of cantharis; thorax yellow, with four brown dots: wing-cases yellow, with a fuscous line. A native of the Cape of Good Hope. Also a species of chrysomela, found in Scandinavia; color green, glossed with gold; anterior of the thorax excavated; and a double blue line on the wing-cases. Also a species of phalæna geometra; wings testaceous yellow, with a broad stripe across, and a brown and a white margin.

BILINEATUS, in entomology, a species of ichneumon; color black, with two yellow lines in front; abdomen depressed; legs red.

BILINEATUS, in ichthyology, a Chinese species of pleuronectes. It is thin, long, yellow above, with a brown margin; reddish-white beneath; covered with small scales.

BILINEATUS, in zoology, a species of coluber; color rufous, with two yellow stripes. This is la double-raie of count le Cepede, and bilineated snake of Dr. Shaw.

BILITZ, or **BIELITZ**, a principality of Austrian Silesia, enclosed by the lordship of Plesse, the principality of Teschen, and the kingdom of Poland. The town of Bilitz lies on the river Biala, and has a castle. The inhabitants, who amount to 3360, are chiefly cloth-weavers. This place stands opposite to the Polish town of Biala, with which it has communication by a bridge across the river. It is fifteen miles E.N.E. of Teschen. Long. 18° 59' E., lat. 49° 48' N.

BILK', *v. a.*, derived by Mr. Lye from the Gothic *biliacan*. To cheat; to defraud, by running in debt, and avoiding payment.

Bilked stationers for yeomen stood prepared.

Dryden.

What comedy, what farce can more delight,
Than grinning hunger, and the pleasing sight
Of your *bilked* hopes.

Id.

BILL, *v. & n.*, Ang.-Sax. *bile*; the beak of a bird; the snout of a beast; the nose of a fish; the beak of a ship; 'biling and cooing,' the courtship of birds; now a common phrase for those little tendernesses which love employs to express the ardor of its affection: a very amiable weakness.

Their *bills* were thwarted crossways at the end, and with these they would cut an apple in two at one snap.

Carew.

In his *bill*

An olive leaf he brings, pacifick sign!

Milton.

Still amorous, and fond, and *biling*,

Like Philip and Mary on a shilling.

Butler.

On the other side, Tom Faddle and his pretty spouse, wherever they come, are *biling* at such a rate, as they think must do our hearts good who behold them.

Spectator.

O let them ne'er with artificial note,
To please a tyrant, strain their little *bill*,
But sing what heaven inspires, and wander where
they will.

Beattie.

In the curlew, woodcock, and snipe, there are three pair of nerves, equal almost to the optic nerve in thickness, which pass first along the roof of the mouth, and then along the upper chap down to the point of the *bill*, long as the *bill* is. *Paley's Theology.*

BILL' } Sax. *bille*, *tribille*; a two-
BIL'LETS, } edged axe. A kind of hatchet
BILL'MAN, } with a hooked point, used in country work, as a hedging *bill*; so called from its resemblance in form to the beak of a bird of prey; a kind of weapon anciently carried by the foot; a battle-axe. Junius thinks *billets* are pieces of wood cut with a *bill*.

And drove at him with all his might and mayne
A forest-*bill*, which both his hands did strayne.

Spenser.

Yea, distaff women manage rusty *bills*;
Against thy seat both young and old rebel.

Shakspeare.

Standing troops are servants armed, who use the lance and sword, as other servants do the sickle or the *bil*, at the command of those who entertain them.

Temple.

Preserve this groaning branch, O hear my prayer,
Spare ne this one, this one poor *billet* spare;
That having many fires and flames withstood,
Its ancient testimonial may last good,
In future times to prove, I once had wood.

King. The last Billet.

The ranks of *bill-men* in order to battle are always environed with pikemen, for the *bill-men* serve specially for execution if the enemy be overthrown.

Old's Life of Raleigh.

BILL', *v. & n.* } Ang.-Sax. *bille*, unde
BIL'LET, *v. & n.* } Græco Barb. *βιλλος*; Gallic
BIL'LAKE, } and Belgic *billet*. To enlist; to enroll; to put or write upon the muster-roll. In whatever different applications the word is employed it retains the original meaning of writing. 'To *billet* a soldier or other person is to note, *bill*, or particular in writing, to appoint his quarters or lodgings. A *bill* seems to be applied to a statement in writing of

certain particular things, as a *bill* of indictment, a *bill* of costs,' &c.

He does receive

Particular addition from the *bill*

That writes them all alike.

Shakspeare.

Retire thee; go where thou art *billeted*:

Away, I say.

Id.

How now, for mitigation of this *bill*,

Urged by the commons? doth his majesty

Incline to it, or no?

Id.

Ordinary expence ought to be limited by a man's estate, and ordered to the best, that the *bills* may be less than the estimation abroad.

Bacon.

No new laws can be made, nor old laws abrogated or altered, but by parliament; where *bills* are prepared and presented to the two houses.

Id.

His masterpiece was a composition that he *billeted* about under the name of a sovereign antidote.

L'Estrange.

When he found this little *billet*, in which was only written 'Remember Cæsar,' he was exceedingly confounded.

Clarendon.

Like him that took the doctor's *bill*,

And swallowed it instead o' the pill.

Hudibras.

Let them, but under your superiours, kill,

When doctors first have signed the bloody *bill*.

Dryden.

And in despair, their empty pit to fill,

Set up some foreign monster in a *bill*.

Id.

The fourth thing very maturely to be consulted by the jury, is, what influence their finding the *bill* may have upon the kingdom.

Swift.

It may seem somewhat difficult to make out the *bills* of fare for some of the forementioned suppers.

Arbutnot.

There will be no way left for me to tell you that I remember you, and that I love you, but that one, which needs no open warrant, or secret conveyance; which no *bills* can preclude, nor so kings prevent.

Pope to Atterbury.

All that a *bill* of exchange can do, is to direct to whom money due, or taken up upon credit, in a foreign country, shall be paid.

Locke.

Let us then calculate, when the bulk of a fagot or *billet* is dilated and rarified to the degree of fire, how vast a place it must take up.

Digby on Bodies.

'Twas then, Belinda! if report say true,

Thy eyes first opened on a *billet-doux*.

Pope.

Most who took in the weekly bills of mortality, made little other use of them, than to look at the foot, how the burials increased or decreased.

Grant.

As he never said—No—to any request in his life, he has given them a *bill*, drawn by a friend of his upon a merchant in the city, which I am to get changed.

Goldsmith.

We'll add a title —

Count Arnold; it hath no ungracious sound,
And will look well upon a *billet-doux*.

Byron. Deformed Transformed.

BILL is a word of various legal uses. The best definition is that of the learned and laborious author of the Law Dictionary. 'It is a declaration in writing, expressing either the wrong the party complaining hath suffered by the party complained of, or else some fault committed against some law or statute of the realm; and this bill is sometimes addressed to the Lord Chancellor of England, especially for unconscionable wrongs done to the complainant, and sometimes to others having jurisdiction, according as the law directs.'

The BILL IN EQUITY, 'addressed to the Lord Chancellor,' is a formal statement, in the style of a petition, wherewith a complainant or orator, as he is termed in the bill, commences his suit; here he sets forth at length the circumstances of fraud, breach of trust, hardship, or the like, under which he suffers, without remedy by common law; humbly praying that he may be relieved at the hands of the court, and that the defendant may be compelled to answer, upon oath, the matters charged against him. The answer is ordinarily the second stage in all pleadings in courts of equity.

Actions in the courts of law are either by 'Original' or by 'Bill;' that is, by an original writ issuing out of the Court of Chancery (or at least, by process, supposing in legal fiction such a writ to have issued), and returnable to the particular court of law; or by bill filed in the first instance in that particular court.

A *BILL OF MIDDLESEX* is a process of the Court of King's Bench, forming a part of the scheme whereby it obtains its jurisdiction in civil actions.

A *BILL OF EXCEPTIONS* is a formal statement drawn up on the trial of a cause, and sealed by the judge, wherein an objection is stated to some decision of his, either in admitting or refusing evidence, in a challenge of a juror, in mis-stating the legal effects of facts, &c. Its intent is, to enable the party against whom judgment is given, should he appeal by writ of error to a superior tribunal, to have this alleged judicial mistake taken into consideration. This by the common law he could not do, as objections of this nature would not appear on the face of the record, or written pleadings; and, to remedy this defect, the right of tendering to the judge a bill of exceptions was provided by the statute of Westminster the second, 13 Edw. I. ch. 31, and it is made compulsory on the judge to affix his seal to it.

A *BILL OF EXCHANGE* is in modern times a request in writing, addressed by one person to another, desiring him to pay a sum of money to some third person, or to any person to whom either that third person, or the first person himself, who makes the request, may afterwards order it to be paid, and that, either immediately, or at any specified distance of time. This is presented to the person to whom it is addressed, for his assent or acceptance. If he gives his assent to it, he notifies it by signing his name on the bill, with the word 'accepted,' and, from that time, he becomes liable to pay it, according to its tenor. The party, in whose favor it is drawn, indicates to what person it shall be paid by indorsing it—that is, by writing on the back of it to that effect, and authenticating it by his signature. The person who makes the bill is the drawer; he to whom it is addressed the drawee; and, when he has accepted it, the acceptor; he in whose favor it is drawn, the payee; and any other person whom he appoints, by indorsement, to receive the money, the indorsee; and all parties into whose hands it may come, by subsequent circulation, holders. When the payee writes nothing but his name on the back, he is said to indorse it in blank, and it is thenceforth payable to any holder. The law of bills of exchange has become in this country a

very important and extensive branch of study. Mr. Chitty and Mr. Justice Bayley have both published valuable treatises on it.

A *BILL OF INDICTMENT* is the written statement of an offence imputed to a prisoner, which is, in the first instance, laid before the grand jury; and if, upon examination of ex parte evidence, they declare it to be 'a true bill,' the prisoner is arraigned and takes his trial; the evidence, in order to convict him, being expected to correspond with the bill or indictment. See *Starkie's Treatise on Criminal Pleading*, 2 vols. 8vo. London, 1822.

A *BILL OF SALE* is a contract, which must be by deed under seal, whereby the proprietor of goods and chattels passes his right and property in them to another: being made solemnly, and with the seller's seal affixed, he is bound by it, and not allowed to show, as he might in the case of a mere parol contract, that it was made without good or valuable consideration, and that, therefore, in law the property did not pass, and no action can be maintained to recover it. See *ASSUMPSIT*.

The BILL OF RIGHTS was an important statute, the second of the first year of William and Mary, so called as being declaratory of the rights of British subjects. See *Blackstone's Comment.* vol. i. p. 128.

BILL, in mechanics, an instrument made of iron, edged in the form of a crescent, and adapted to a handle. It is used by basket-makers, plumbers, and gardeners. When short, it is called a hand-bill, and when long, a hedge-bill.

BILL, in physiology, a cartilaginous substance covered with skin, forming the beak of a bird. The bill performs the office of teeth in some birds, and serves as a weapon. In the parrot kind it is hooked, and serves to climb, and catch hold of boughs. The upper bill of this bird is filled with rows of cross bars; and the under bill, which is much shorter, shuts within the upper, and draws against the roof of the mouth; by which a kind of mastication is affected, before the meat passes into the craw. The phœnicopter bill is a true hyperbola, pointed at the end like a sword; and the upper bill moves in eating, the lower being fixed contrary to those of all other kinds. The woodpecker's bill is strong, and sharp enough to dig holes in the heart of the hardest timber. In the island of Ferro, a fixed reward is given for the bills of ravenous birds: all watermen are obliged to bring a certain number yearly to the country courts, at the feast of St. Olaus; when they are thrown into a heap, and burnt in triumph. Plott gives divers instances of monstrous irregularities in the bills of birds, particularly of a raven, whose mandible crossed each other, the lower chap turning upwards and the upper downwards. *Nat. Hist. Stafford.* ch. vii. sect. 4.

BILL, in trade, both wholesale and retail, as also among workmen, signifies an account of goods delivered to a person, or of work done.

BILL, BANK, is a note of obligation signed on behalf of the company of the bank by one of the partners or their cashiers. Or it is an obligation to pay on demand either to the bearer or to order; in Scotland, it is understood to be to order.

BILL BROUGHT INTO PARLIAMENT, a paper containing propositions, offered to both houses to be passed by them, and then presented to the king to pass into a law. To bring a bill into the house, if the relief, sought by it, is of a private nature, it is first necessary to prefer a petition; which must be presented by a member, and usually sets forth the grievance to be remedied. This petition when founded on facts that may be disputed is referred to a committee, who examine the matter, and accordingly report to the house; and then, or otherwise upon the mere petition, leave is given to bring in the bill. In public matters, the bill is brought in upon motion made to the house, without any petition. Formerly bills were drawn in the form of petitions, and entered upon the parliament rolls with the king's answer subjoined; not in any settled form of words, but as the circumstances required; and, at the end of each parliament, the judges drew them into the form of a statute, which was entered on the statute rolls. In the reign of Henry V., to prevent mistakes and abuses, the statutes were drawn up by the judges before the end of the parliament; and in the reign of Henry VI. bills in the form of acts, according to the modern custom, were first introduced. The persons directed to bring in the bill, present it in a competent time to the house, drawn out on paper, with a multitude of blanks, or void spaces, where any thing occurs that is dubious, or necessary to be settled by parliament itself, such especially as the precise date of times, the nature and quantity of penalties, or of any sums of money to be raised, being indeed only the skeleton of the bill. In the house of lords, if the bill begins there, it is when of a private nature referred to two judges, who examine and report the state of the facts alleged, to see that all necessary parties consent, and to settle all points of technical propriety.—This is read a first time, and at a convenient distance a second time: and, after each reading, the speaker opens to the house the substance of the bill and puts the question, Whether it shall proceed any farther? The introduction of the bill may be originally opposed, as the bill itself may on either of the readings; and if the opposition succeed, the bill must be dropped for that session; as it must, also, if opposed with success in any subsequent stage. After the second reading, the bill is committed; that is referred to a committee: which is either selected by the house, in matters of small importance; or else, upon a bill of consequence, the house resolves itself into a committee of the whole house, which is composed of every member; to form it, the speaker quits the chair, another member being appointed chairman, and may sit and debate as a private member. In these committees the bill is debated clause by clause, amendments made, the blanks filled, and sometimes the bill entirely new modelled. After it has gone through the committee, the chairman reports it to the house, with such amendments as the committee have made: the house then reconsiders the whole again, and the question is repeatedly put upon every clause and amendment. When the house has agreed or disagreed to the amendments of the committee, and sometimes added new amendments of its

own, the bill is then ordered to be engrossed, or written in a strong gross hand, on one or more long rolls of parchment sewed together. When this is finished, it is read a third time, and amendments are sometimes then made to it; and if a new clause be added, it is done by tacking a separate piece of parchment on the bill, which is called a rider. The speaker then again opens the contents; and holding it up in his hands, puts the question, whether the bill shall pass? If this be agreed to, the title to it is then settled: which used to be a general one for all the acts passed in the session, till in the fifth year of Henry VIII. distinct titles were introduced for each. After this, one of the members is directed to carry it to the lords, and desire their concurrence; who, attended by several more, carries it to the bar of the house of peers, and there delivers it to their speaker, who comes down from his woosack to receive it. It there passes through the same forms as in the other house, except engrossing, which is already done; and if rejected, no more notice is taken, but it passes sub silentio, to prevent unbecoming altercations. But if it is agreed to, the lords send a message by two masters in chancery, or sometimes two of the judges, that they have agreed: and the bill remains with the lords, if they have made no amendment to it.—But if any amendments are made, such amendments are sent down with the bill to receive the concurrence of the commons. If the commons disagree to the amendments, a conference usually follows between members deputed from each house; who for the most part settle and adjust the difference: but if both houses remain inflexible the bill is dropped. If the commons agree to the amendments, the bill is sent back to the lords by one of the members with a message to acquaint them therewith. The same forms are observed, *mutatis mutandis*, when the bill begins in the house of lords. But when an act of grace or pardon is passed, it is first signed by his majesty, and then read once only in each of the houses, without any new engrossing or amendment. And when both houses have done with any bill, it is deposited in the house of peers, to wait the royal assent; except in the case of a bill of supply, which, after receiving the concurrence of the lords, is sent back to the house of commons. For the manner of giving the royal assent, See ASSENT.

Before the invention of printing, acts of parliament were usually published by the sheriff of every county; the king's writ being sent to him at the end of every session, together with a transcript of all the acts made at that session, commanding him, '*ut statuta illa, et omnes articulos in eisdem contentos, in singulis locis ubi expidire viderit, publicè proclamari, et firmiter teneri et observari faciat.*' And the custom was to proclaim them in his county court, and there to keep them, that whoever would, might read or take copies thereof; which custom continued till the reign of Henry VII. An act of parliament thus made is the exercise of the highest authority that this kingdom acknowledges. It has power to bind every subject in the land, and the dominions thereunto belonging; nay, even the king himself, if particu-

larly named therein. And it cannot be altered, amended, dispensed with, suspended, or repealed, but in the same forms and by the same authority of parliament: for it is a maxim in law, that it requires the same strength to dissolve as to create an obligation. It was formerly held, that the king might in many cases dispense with penal statutes; but now by statute, 1 William and Mary, stat. 2, cap. 2, it is declared that the suspending or dispensing with laws, by royal authority, without consent of parliament, is illegal.

BILL OF APPEAL. See **APPEAL**.

BILL OF ATTAINDER. See **ATTAINDER**.

BILL OF ENTRY, an account of the goods entered at the custom-house, both inwards and outwards. In this bill must be expressed the merchant exporting or importing, the quantity of merchandise, and the divers species thereof; and whither transported, and from whence.

BILL OF LADING, or memorandum, is an acknowledgment signed by the master of a ship, and given to a merchant, &c. containing an account of the goods which the master has received on board from him, with a promise to deliver them at an intended place, for a certain salary. Each bill of lading must be treble; one for the merchant who loads the goods, another to be sent to the person to whom they are consigned, and the third to remain in the hands of the master of the ship. It must be observed, however, that a bill of lading is used only when the goods sent on board a ship are but part of the cargo: for when a merchant loads a whole vessel on his own personal account, the deed passed between him and the master of the ship is called charter-party. See **CHARTER-PARTY**.

BILLS OF MORTALITY. These are summed up every week, month, quarter, or year, according to the population of the place; hence called weekly bills, monthly, quarterly, or yearly bills. The London bills of mortality, which were the first in Britain, are composed by the company of parish-clerks, and express the number of christenings of each sex, and the number of deaths from each disease. These bills were first computed after the Plague in 1592, at which time they included 109 parishes. This number has since been increased to 146.

BILL OF STORE, a license granted at the custom-house to merchants, by which they have liberty to carry, custom free, all stores and necessary provisions for their voyage.

BILL OF SUFFERANCE, a license granted to a merchant, at the custom house, suffering him to trade from one English port to another without paying custom.

BILLERICAY, a market-town in the hundred of Barnstable, Essex, four miles east from Brentwood, and twenty-three east from London. At Blunts'-Walls, near this place, are traces of a Roman fortification and ditch. The market, on Tuesday, is well supplied with corn.

BILLERICAY, a township in Middlesex county, Massachusetts, twenty miles north of Boston.

BILLES, in traffic, a name given by the French, and afterwards by other nations, to the masses of raw steel which has been tempered for sale, and is ready to be wrought into tools,

&c. This in working loses its temper, but recovers it again by plunging it into cold water.

BILLET, in military affairs, a well-known ticket for quartering soldiers, which entitles each soldier, by act of parliament, to candles, vinegar, and salt, with the use of fire, and the necessary utensils for dressing and eating their meat. Publicans, and other persons obliged to furnish quarters, have been relieved by a further allowance of 6d. each man per diem for the cavalry, and 4d. each man per diem for the infantry; which makes the whole sum for each man's diet and small beer, 10d. per diem. They are also, by a subsequent act, entitled an Act for the Relief of Innkeepers, &c. allowed 4½d. for each horse's hay and straw, in addition to the former 6d. By a circular, dated War Office, 24th May, 1816, to general officers commanding districts, in conformity with an Act for fixing the Rates of Subsistence to be paid to Innkeepers and others on quartering Soldiers, the rate of allowance for the hot-meal, provided for non-commissioned officers or private soldiers on a march in South Britain, is fixed at the sum of 1s. per diem, until the 24th ultimo inclusive, and from and after that day at the sum of 10d. per diem; and that the sum to be paid to innholders, and others on whom any of the horses belonging to his majesty's forces shall be quartered, is fixed at 1s. 2d. per diem, until the 24th ultimo inclusive, and at 10d. per diem from and after that day.

BILLET, in heraldry, a bearing in form of a long square. They are supposed to represent pieces of cloth of gold and silver; but Guillem thinks they represent a letter sealed up, and other authors take them for bricks. Billets signifies that the escutcheon is all overstrewn with billets, the number not ascertained.

BILLETS, or **BILLET WOOD**, small wood for fuel; the assize of which was formerly to be enquired of by justices.

BILLETINS, or Brothers of Charity, a society of religious hospitaliers, founded about A. D. 1297. They took the third order of St. Francis, and the scapulary, making three usual vows, but without begging.

BILLETON, an island in the Indian Seas, of a circular form, about fifty miles in length, and forty-five in breadth, situated between Sumatra and Borneo. Long. 108° E., lat. 3° S.

BILLIARDS. This game is played on a rectangular table, with little ivory balls, which are driven into hazards or holes. It was invented by the French, but was played differently from what it now is; having a pass iron fixed on the table, through which the balls at particular periods of the game used to be played; but this method is quite laid aside. The French, Germans, Dutch, and Italians, brought this game into vogue throughout most parts of Europe, and it soon became a favorite diversion in England, particularly with persons of rank. It has, however, of late years been prostituted by the designing among the lower classes; but it will never be out of fashion, being very entertaining, and affording that moderate exercise which renders it the more agreeable. The table on which the game is played is generally about twelve feet long, and six wide; it is covered with fine green

cloth, and surrounded with cushions to prevent the balls rolling off, and to make them rebound. There are six holes, nets, or pockets, fixed at the four corners, and the middle, opposite to each other, to receive the balls, which when put into them are called hazards. The making of a hazard, that is, putting the adversary's ball in, at the usual game, reckons two in favor of the player. The game is played with sticks called maces, or with cues; the first consists of a long straight stick, with a head at the end, and is the most powerful instrument of the two: the cue is a thick stick diminishing gradually to a point of about half an inch in diameter; this instrument is played over the left hand, and supported by the fore-finger and thumb. It is the only instrument in vogue abroad, and is played with amazing address by the Italians and some of the Dutch; but in England the mace is the prevailing instrument, which the foreigners hold in contempt, as it requires not near so much address to play the game with it as with the cue; but the mace is preferred for its peculiar advantage, which some professed players have introduced under the name of trailing, that is following the ball with the mace to such a convenient distance as to make it an easy hazard. The degrees of trailing are various, and have different denominations, viz. the shove, the sweep, the long stroke, the trail, and the dead trail or turn up, all which secure an advantage to a good player according to their various gradations; even the butt end of the cue becomes very powerful when it is made use of by a good trailer.

The following are the rules observed in the common game of billiards: 1. For the lead, the balls must be put at one end, and the player must strike against the farthestmost cushion, in order to see what will be nearest the cushion that is next to them. 2. The nearest to the cushion is to lead, and choose the ball if he pleases. 3. The leader is to place his ball at the nail, and not to pass the middle pocket; and if he holes himself in leading, he loses the lead. 4. He who follows the leader must stand within the corner of the table, and not place his ball beyond the nail. 5. He who plays upon the running ball loses one. 6. He who touches the ball twice, and moves it, loses one. But these two rules are seldom if ever enforced, especially in England. 7. He who does not hit his adversary's ball loses one. 8. He who touches both balls at the same time, makes a foul stroke, in which case if he should hole his adversary, nothing is gained by the stroke; but if he should put himself in, he loses two. 9. He who holes both balls loses two. 10. He who strikes upon his adversary's ball, and holes himself, loses two. 11. He who plays at the ball without striking it, and holes himself, loses three. 12. He who strikes both balls over the table, loses two. 13. He who strikes his ball over the table, and does not hit his adversary's ball, loses three. 14. He who retains the end of his adversary's stick when playing, or endeavours to baulk the stroke, loses one. 15. He who plays another's ball or stroke without leave, loses one. 16. He who takes up his ball, or his adversary's without leave, loses one. 17. He who stops either ball

when running, loses one, and being near the hole loses two. 18. He who blows upon the ball when running loses one, and if near the hole loses two. 19. He who shakes the table when the ball is running loses one. 20. He who strikes the table with the stick, or plays before his turn, loses one. 21. He who throws the stick upon the table, and hits the ball, loses one. 22. If the ball stands upon the edge of the hole, and after being challenged, it falls in, it is nothing, but must be put where it was before. 23. If any person, not being one of the players, stops a ball, the ball must stand in the place where it was stopped. 24. He who plays without a foot upon the floor, and holes his adversary's ball, gets nothing for it, but loses the lead. 25. He who leaves the game before it is ended, loses it. 26. Any person may change his stick in play. 27. If any difference arise between players, he who marks the game, or the majority of the company, must decide it. 28. Those who do not play must stand from the table, and make room for the players. 29. If any person lays any wager, and does not play, he shall not give advice to the players upon the game.

Besides the common winning game, which is twelve up, there are several other kinds, viz. the losing game, the winning and losing, choice of balls, bricole, caranbole, Russian carambole, the bar hole, the one hole, the four game, and hazards. I. The losing game, is the common game nearly reversed; that is to say, except hitting the balls, which is absolutely necessary, the player gains by losing. By putting himself in, he wins two; by putting his adversary in, he loses two; but if he pockets both balls, he gets four. This game depends greatly upon particular strengths, and is therefore very necessary to be known to play the winning game well. II. The winning and losing game is a combination of both games; that is to say, all balls that are put in by striking first the adversary's ball, reckon towards game; and holing both balls reckons four. At this game, and the losing, knocking over, or forcing the balls over the cushion, goes for nothing, the striker only loses the lead. III. Choice of balls, is choosing each time which ball the player pleases, which is doubtless a great advantage, and is generally played against losing and winning. IV. Bricole is being obliged to hit a cushion, and make the ball rebound, or return to hit the adversary's ball, otherwise the player loses a point. This is a great disadvantage, and is reckoned between even players to be equal to receiving about eight or nine points. V. Carambole, is a game introduced from France. It is played with three balls, one being red, which is neutral, and is placed upon a spot on a line with the string nail (i. e. that part of the table whence the player strikes his ball at first setting off, and which is generally marked with two brass nails). Each antagonist, at the first stroke of a hazard, plays from a mark, which is upon a line with it, at the other end of the table. The chief object at this game is, for the player to hit with his own ball the two other balls, which is called a carambole, and by which the player wins two. If he puts in the red ball he gets two; so that seven may be made at one stroke, by caran-

holing and putting in both balls. This game resembles the losing, depending chiefly upon particularly strengths, and is generally played with the cue. The game is sixteen up; yet is reckoned sooner over than the common game. The next object of this game, after making what we have distinguished by the carambole, is the baulk; that is, making the white ball, and bringing the player's own ball and the red one below the stringing nail, whence the adversaries begin. By this means the opponent is obliged to play *bricole* from the opposite cushion, and it often happens that the game is determined by this situation. VI. The Russian carambole is a game introduced from abroad, and is played in the following manner: the red ball is placed as usual on the spot made for that purpose; but the player when he begins, or having been holed, never places his ball on any particular place or spot; he being at liberty to put it where he pleases. When he begins to play, instead of striking at the red ball, he leads his own gently behind it, and his antagonist is to play at which he thinks proper; if he plays at the red ball and holes it, he scores three as usual towards the game, which is twenty-four instead of sixteen points; and the red ball is put upon the spot again, at which he may strike again or take his choice which of the two balls to push at, always following his stroke till both balls are off the table. He is entitled to two points each time that he caramboles, the same as at the other game; but if he caramboles, and puts his own ball into any hole, he loses as many as he might have got had he not holed himself: for example, if he strikes at the red ball, which he holes, at the same time caramboles and holes himself, he loses five points; and if he holes both balls when he caramboles, and likewise his own, he loses seven, which he could have got if he had not holed his own ball. In other respects it is played like the common carambole game. VII. The bar hole, is so called from the hole being barred which the ball should be played for, and the player striking for another hole; when this game is played against the common game, the advantage for the latter, between equal players, is reckoned to be about six. VIII. The player at the one hole, though it seems to those who are not judges of the game to be a great disadvantage, has in fact the best of it; for, as all balls that go into the one hole reckon, the player endeavours to lay his ball constantly before that hole, and his antagonist frequently finds it very difficult to keep one or other ball out, particularly on the leads, when the one hole player lays his ball (which he does as often as he can) on the brink of the hole; leading for that purpose from the opposite end, which in reality he has no right to do; for the lead should be given from the end of the table at which the hazard is made: but this advantage is often taken of novices. IX. The four game, consists of two partners on each side, at the common winning game; who play by succession after each hazard, or two points lost. The game is fifteen up; so that the point or hazard is an odd number, which makes a miss at this game of more consequence than it is at another; being as much at four, six, or

eight, as it is at five, seven, or nine, at the single game. X. Hazards, are so called because they depend entirely upon the making of hazards, there being no account kept of any game. Any number of persons may play, by having balls that are numbered; but the number seldom exceeds six, to avoid confusion. The person whose ball is put in, pays so much to the player according to what is agreed to be played for each hazard; and the person who misses, pays half the price of a hazard to him whose ball he played at. The only general rule is not to lay any ball a hazard for the next player, which may be in a great measure avoided, by always playing upon the next player, and either bringing him close to the cushion, or putting him at a distance from the rest of the balls. The table, when hazards are played, is always paid for by the hour.

BILLINGSGATE, the principal market of London for fish, is said to be very ancient. Bailey derives its name from *Belinus*, one of the fabulous kings of Britain, long before the Roman invasion. But he gives two other more probable derivations, viz. from *bellan*, Teut. to roar; alluding to the noise of the waters (or the fishwives), and from *belte*, Sax. a purse. The tolls here are appointed by statute. All persons buying fish in this market may sell the same in any other market by retail, but none but fishmongers are allowed to sell it in shops; and if any person shall buy any quantity of fish at Billingsgate for others, or any fishmonger shall engross in the market, they incur a penalty of £20. Fish imported by foreigners shall be forfeited, and the vessel, &c. See **BILLINGSGATE**.

BILLINGSLEY (Sir Henry), an eminent magistrate and mathematician of the sixteenth century, was born at Canterbury, and educated at Oxford, after which he served an apprenticeship to a haberdasher in London. Having commenced business for himself, he was very successful, and became very wealthy. He was much respected among the citizens; and filled the offices of sheriff, alderman, and lord mayor; the last of which was in 1598, when he received the honor of knighthood. He entertained in his house one Whitehead, an expelled friar, who was deeply skilled in the mathematics; to whom he became a student, and soon acquired himself great reputation as a mathematician. The first edition of Euclid's Elements in English was published by him in 1570, with annotations drawn from the MSS. of his tutor, in folio. To this work Dr. Dee wrote a learned preface. Sir Henry died in 1606.

BILLINGSPOUR, a town in Delaware, twelve miles below Philadelphia, fortified, for the defence of the channel, during the American war. Opposite this fort several large frames of timber, neaded with iron spikes, denominated *chevaux de frizes*, were sunk to prevent the British ships from passing. A curious machine was afterwards invented to raise them.

BILLINGTON (Elizabeth), a celebrated English singer, was born in England in 1770, her father, Mr. Weichsell, being a native of Saxony. At an early age she attained to an extraordinary proficiency on the piano-forte under Schröeter. At fourteen she made her first appearance as a

singer at Oxford; and at sixteen years of age married Mr. Billington, a performer on the double-bass, whom she accompanied to Dublin. From Ireland she returned to London, where she appeared at Covent Garden for the first time, as Rosetta, in Arne's *Love in a Village*, and met with such unprecedented encouragement as to secure her an immediate engagement at the salary of £1000, and a benefit, for the remainder of the season. She continued to take lessons of Mortellari, a celebrated Italian master then in London, and, on the closing of the theatre, repaired to Paris, in order to profit by the instructions of Sacchini. She returned to England in 1785, and appeared at the concerts of ancient music. From this period no music meeting, opera, or concert, was considered complete without her. In 1793 she visited Italy, and performed at the theatre of St. Carlos at Naples; Bianchi composing expressly for her, his celebrated opera '*Inez de Castro*.' Her husband here died suddenly of apoplexy, just as she was preparing to set out for the theatre. In 1796 she appeared at Venice, and at Rome, being everywhere received with great applause. In 1801 she returned to the London stage, and delighted the whole musical world by her *Mandane*; a performance never since equalled in the English Opera; and continued incessantly the favorite of the public till her final retirement from public life in 1809. In 1817 she quitted England, and died after a short illness at St. Artien, an estate she had purchased in the Venetian territories. Though always known as Mrs. Billington, this lady married a second time, to a M. Felipent, in 1799.

BILLION. A million of millions.

BILLIONS, in arithmetic; contraction of billions, or twice millions, the word millions occurring twice in explaining the meaning of the word; millions of millions. Billions, in nomenclature, occupy from the thirteenth to the eighteenth column, to the left. See **ARITHMETIC**.

BILLON. Lat. *bullæ*. Base metal of gold or silver alloyed with copper.—*Ency. Met.*

BILLON, or **BILLIO**; from *bullæ*, bullion, Lat.; in coinage, a composition of precious and base metals, where there are most of the latter. Wherefore, billon of gold signifies gold under twelve carats fine; and billon of silver, silver under six penny-weights. So little attention was paid formerly to the purity of gold and silver, that the term billon of gold was applied only to that which was under twenty-one carats, and billon of silver to that which was lower than ten penny-weights.

BILLOX, or **BILLOM**, a town of France, the head of a canton, in Lower Auvergne, and in the department of the Puy de Dome. It lies in a fruitful country; but the manufactures have gone to decay. Population 5200. Twelve miles E. S. E. of Clermont-Ferrand, and seventeen north of Issoire.

BILLOUNJAH, a district of Hindostan, in the province of Gundwana, adjoining the British province of Bahar. It is occupied by chieftains who have been frequently compelled to pay tribute to the Moguls and Mahrattas; but who in the hills, with which it abounds, are nearly independent. It lies between 24° and 25° N. lat., and 84° and 85° E. long.

BILL'OW, *v. & n.* } Gerin. *bilge*; Dan. *Bill'ow*. } *bolg*; probably of the same original with Sax. *bilg*, a bladder. A wave swollen, and hollow; to swell, or roll as a wave; swelling; turgid; wavy.

The waves come rolling, and the *billows* rore
Outrageously, as they outraged were,
Or wrathful Neptune did them drive before
His whirling chariot for exceeding feare. *Spenser.*

Wilt thou upon the high and giddy mast
Seal up the shipboy's eyes, and rock his brain
In cradle of the rude imperious surge;
And in the visitation of the winds,
Who take the ruffian *billows* by the top,
Curling their monstrous heads and hanging them
With deafening clamour in the slippery clouds
That with the hurly, Death itself awakes?
Shakspeare.

————— on each hand the flames
Driven backward slope their pointing spires, and
rolled

In *billows*, leave i' th' midst a horrid vale. *Milton.*

The *billowing* snow, and violence of the shower,
That from the hills disperse their dreadful store,
And o'er the vales collected ruin pour. *Prior.*

In this dire season, oft the whirlwind's wing
Sweeps up the burthen of whole wintry plains
At one wide waft, and o'er the hapless flocks,
Hid in the hollow of two neighbouring hills,
The *billowy* tempest whelms, till, upward urged,
The valley to a shining mountain swells,
Tipt with a wreath high-curling in the sky.
Thomson.

And as the stately vessel glided slow,
Beneath the shadow of that ancient mount,
He watched the *billows'* melancholy flow,
And, sunk albeit in thought as he was wont,
More placid seemed his eye, and smooth his pallid
front. *Byron's Child Harold.*

BILMA, a vast desert of Africa, south-east of Fezzan, and bordering on Bornou. It is a most inhospitable and burning tract of sand, which the caravans are ten days in passing: but contains the famous lakes of Dombou, which supply salt for the Cashna and Bornou markets, and as far as to the south of the Niger.

BILOBUS, in entomology, a species of scarabæus, with two lobes on the thorax; a simple horn on the head, and the wing-cases striated. Found in the south of Europe. Also a species of dytiscus, color black; except the mouth, vertical two-lobed spot, thorax, sutural line, base, and margin of the wing-cases, which are yellowish-white. Also a species of cimex spinosus; thorax obtusely dentated; wing-cases grayish-red; vent with two lobes. A native of Europe.

BILOBUS, in ornithology, a species of charadrius, the wattled plover of Latham. It is a native of the Malabar coast. The bill and legs are yellow; frontal skin naked, and pendulous in two lobes; body yellowish-gray above; white beneath. Gmelin, &c. This is pluvier à lambeaux of Buffon.

BILOCULAR, in botany, a term applied to a capsule that has two cells.

BILSAH, a town belonging to Dowlet Row Sindia, in the province of Malwah, Hindostan; situated on the Betwah River, in lat. 23° 33' N., long. 77° 50' E. It is enclosed with a stone wall, defended by square towers, and a ditch. The

streets are spacious, and contain several good houses. This place is situated nearly on the south-west extremity of the district, where it is contiguous to that of Bopal. The country is celebrated all over India for the excellent quality of the tobacco. It is open, and well cultivated. To the east, on a high and steep rock, is a durgah, consecrated to the memory of a Mahommedan saint, named Jelal ud Deen Bokhari. Distant from Oojain 140 miles, from Nagpoor 249, from Benares 416, from Calcutta, by Mundlah, 867 miles.

BILSEN, or **BILSON**, a town of Germany, in the ci-devant bishopric of Liege. It was the rendezvous of the duke of Marlborough in 1706, previous to the battle of Ramillies. It lies six miles west of Maestricht, and fourteen north of Liege.

BILSON (Thomas), bishop of Winchester, the place of his birth and education. In 1565 he was admitted perpetual fellow of New College; in 1570 M.A.; in 1579 B.D.; and in 1580 D.D. His first preferment was that of master of Winchester school; he was next made prebendary, and afterwards warden, of Winchester college. In 1596 he was consecrated bishop of Worcester; and, about a year after, translated to the see of Winchester, and sworn of queen Elizabeth's privy council. He was one of the principal managers of the Hampton-court conference in 1604; and the English translation of the Bible, in the reign of king James I., was finally corrected by this prelate, and Dr. Miles Smith, bishop of Gloucester. He died in 1616. Authors agree in giving him the character of a learned divine, an able civilian, and an upright man. His style is in general much more easy and harmonious than that of his contemporaries. His works are: 1. Several Latin poems and orations; MSS. in Ant. Wood's library. 2. The true Difference between Christian Subjection and Unchristian Rebellion, Oxford, 1585, 4to.; London, 1586, 8vo. 3. The Perpetual Government of Christ's Church, London, 1593, 4to., black letter, &c.

BIMA, a town and district in the north-east extremity of the island of Sumbava, governed by an independent sultan, whose dominion extends over part of the neighbouring islands. The town stands on a commodious harbour, encompassed by lofty mountains, and is gained by a channel of great depth. The language spoken here is esteemed one of the radical dialects of the east, and extends over the greater part of the island of Ende, or Floris. The sultan having invited the Dutch at one period to form a settlement here, Bima became dependent on Macassar; but was taken by the British, and they appointed a resident here.

BIMACULARIS, in entomology, a species of phalæna, found in Europe. The anterior wings are brown, with two brown spots.

BIMACULATA, in conchology, a species of tellina, found in the European and American seas; of a somewhat rotundated triangular shape, rather broad, whitish, with two sanguineous spots within.

BIMACULATA, in entomology, a species of silpha, found in Barbary: color black; head of the antennæ globose; legs ferruginous.

BIMACULATUS, in ichthyology, a species of Salmo: body compressed, and marked with two spots; anal fin with thirty-two rays. This is a native of South America.

BIMATICAL, of two years continuance.

BIMEDIAL, in mathematics. If two medial lines, as AB and BC, commensurable only in power, containing a rational rectangle, are compounded, the whole line AC will be irrational, and is called a first bimedral line.

B
A ———— + ———— C

See *Euclid*, lib. x. prop. 38.

BIMINI, one of the Bahama islands, inhabited by the native tribes, near the north-west extremity of the Great Bahama bank, and the east point of Florida. It is about eight miles long, and difficult of access from the numerous shoals with which it is surrounded. It is covered with beautiful groves.

BIMUCRONATUS, in entomology, a species of scarabæus, inhabiting Amboyna. It is testaceous; shanks of the anterior legs large, and bearded; shield of the head mucronated on both sides, and bordered with fine hairs.

BINACLE or **BINNACLE**. See **BINNACLE**.

BINAROS, a walled sea-port of Valencia, Spain, near the mouth of a river which falls into the Mediterranean. It has a harbour at a short distance from the town, with from six to nine fathoms water. The adjacent country produces excellent wine.

BINARY, *bis*, *binus*; two, twofold, double.

THOR. I have 'em already, Somerton.

SOMERTON. *Binal* revenge all this.

Ford. Witch of Edmonton.

So that this matter was rightly called heaven; and the union of the passive and active principle in the creation of this material heaven is the second day's work, and the *binarie* denotes the nature thereof.

More. The Philosophick Cabbala.

BINARY, **ARITHMETIC**, that wherein unity, or 1 and 0, are only used. Mr. Leibnitz shows it to be very expeditious in discovering the properties of numbers, and in constructing tables: and Dangeourt, in the History of the Royal Academy of Sciences, gives a specimen of it in arithmetical progression, where he shows that because in binary arithmetic only two characters are used, therefore the laws of progression may be more easily discovered by it than by common arithmetic. All the characters used in binary arithmetic are 0 and 1; and the cypher multiplies every thing by 2, as in the common arithmetic by 10. Thus 1 is one; 10, two; 11, three; 100, four; 101, five; 110, six; 111, seven; 1000, eight; 1001, nine; 1010, ten: which is built on the same principles with common arithmetic. Hence appears the reason of the celebrated property of the duplicate geometrical proportion in whole numbers; viz. that one number of each degree being had, we may thence compose all the other whole numbers above the double of the highest degree.

BINARY LOGARITHMS, are a species of logarithms contrived and calculated by M. Euler (*Tentamen Novæ Theoriæ Musice*, chap. vii.) for facilitating musical calculations; wherein 2 is made the unit, or modulus, instead of 10, as in

the common logarithms, or 1 in the hyperoolic logarithms.

In these logarithms, the powers of 2 have successively 1, 2, 3, 4, &c. for their logarithms, as in the following table, for the first 10 numbers, viz.

Numbers.	Binary Logarithms.
1	0.000000
2	1.000000
3	1.584963
4	2.000000
5	2.321928
6	2.584963
7	2.807356
8	3.000000
9	3.169925
10	3.321928

Musical calculations are performed with great ease by the binary logarithms, owing to their representing the decimal values of the intervals, in terms of the octave as unity.

BINARY MEASURE, in music, a measure which is beaten equally, or where the time of rising is equal to that of falling. This is usually called common time.

BINARY NUMBER, that composed of two units.

BINCHE, or **BINCK**, a town of the Netherlands, of Hainault, on a stream that joins the Haine at a short distance. From 1554, when it was burnt by Henry II. of France, it has undergone frequent sieges and change of masters. In May 1794 several engagements took place near this town between the French and Austrians. Population 3800. Twelve miles E. S. E. of Mons.

BIND, *v.* & *n.* } *Ang.-Sax.* bindan. To
BINDER, } confine; to enchain; to fix
BINDING, } by circumvolution; to fasten;
 to connect; to put under constraint; to contract; in hinder; to stop; to compel; to oblige.
Binding is a bandage, a cover, a ligament: a *bind* is either the agent, or the instrument employed in binding.

Wilt thou play with him, as with a bird? or wilt thou *bind* him for thy maidens? *Job.*

Who hath *bound* the waters in a garment? *Proverbs.*

Keep my commandments, and live; and my law, as the apple of thine eye. *Bind* them upon thy fingers, write them upon the table of thine heart. *Id.*

When he saw him, he had compassion on him, and went to him, and *bound* up his wounds. *Luke.*
 And now perforce they have him prisoner taken;
 And now they doe with captive bands him *bind*;
 And now they lead him thence of all forsaken,
 Unless some succour had in time him overtaken. *Spenser.*

All which accepting, and with faithfull oth
Bynding himselfe most firmly to obey,
 He up arose, however lief or loth,
 And sworn to him true fealtie for aye. *Id.*

Though I am *bound* to every act of duty,
 I am not *bound* to all that slaves are free to. *Shakespeare.*

Now I am cabined, cribbed, confined, *bound* in
 To saucy doubts and fears. *Id.*

Was ever book, containing such vile matter,
 So fairly *bound*? *Id.*

Rhubarb hath manifestly in it parts of contrary operations; parts that purge, and parts that *bind* the body. *Bacon.*

The more we are *bound* up to an exact narration, we want more life, and fire, to animate and inform the story. *Felton.*

Unjust, thou sayst,
 Flatly unjust, to *bind* with laws the free,
 And equal over equals to let reign,
 One over all with unsucceeded power. *Milton.*

Adown her shoulders fell her length of hair:
 A ribband did the braided tresses *bind*,
 The rest was loose, and wantoned in the wind. *Dryden.*

Sir Roger was staggered with the reports concerning this woman, and would have *bound* her over to the county sessions. *Addison.*

As one of these, in days of yore,
 Rummaged a shop of learning o'er—
 Not like our modern dealers, minding
 Only the margin breadth, and *binding*. *Gay.*

The law, by which all creatures else are *bound*,
Binds man, the lord of all. *Couper.*

BIND, *n. s.*, a species of hops.

The two best sorts are the white and the grey *bind*; the latter is a large square hop, and more hardy. *Mortimer.*

BINDING, in falconry, implies tiring, or when a hawk seizes.

BINDING, in fencing, a method of securing or crossing the adversary's sword with a pressure, accompanied with a spring from the wrist. Unless a man, by some kind of cross, render his adversary's sword incapable to offend him during the time of his performing a lesson upon him; he may receive from his adversary, either a fortuitous contretemps, or an exchanged thrust, before the recovery of his body after a thrust. The great objection made against the frequent use of binding, is, that when a man, in performing it, cleaves too much to his adversary's sword, he is liable to his adversary's slipping of him, and consequently of receiving either a plain thrust, or one from a feint.

BINDING JOISTS, in architecture, are those joists in a floor, into which the trimmers of staircases, or well-holes of the stairs, and chimney-ways, are framed; they ought to be stronger than common joists.

BINDWEED, *n. s.*, *Lat. convolvulus*, the name of a plant.

Bindweed is the larger and the smaller; the first sort flowers in September, and the last in June and July. *Mortimer.*

BINGAZI, a sea-port of Barca, in Africa, defended by a wall and castle, once a large and beautiful city, but now reduced. It contains, however, 5000 inhabitants, and has an excellent harbour for ships of 200 tons burden. But there are some quicksands in the vicinity. It carries on also a considerable trade in corn and flocks of sheep.

BINGEN, a fortified town on the left bank of the Rhine, in the duchy of Hesse, near the borders of the Prussian dominions. It is famous for the culture of a particular kind of wine called scharlach. The population is about 3000. The waters of the Rhine, near this place, being

confined by shelving rocks, form the dangerous whirlpool called Bingerloch. Bingen was taken and retaken by the French almost every year, between 1792 and 1796. Its fortifications were destroyed by Louis XIV., but were ordered to be renewed by Buonaparte when first consul. Bingen is about twenty miles west of Mentz. Lat. 49° 55' N., long. 7° 48' E. See BINGIUM.

BINGHAM (Joseph), an antiquarian of Wakefield, was born in 1660, educated at Oxford, and ejected from a fellowship thrice, on account of his supposed heterodoxy; he died in 1723. His *Origines Ecclesiasticæ* was the most important of his works, which were published altogether in 2 vols. folio. 1725, and translated into Latin by Grichow, in 11 vols. 4to. Hall. 1724—1738, and 1751—1761. The first volume of his laborious work appeared in 1708, and the whole was eventually completed in 10 vols. 8vo.; an edition being also printed in 2 vols. folio. It was shortly after translated into Latin, and acquired a great circulation on the continent, being still esteemed a standard work. Trelawney, bishop of Winchester, collated him, in 1712, to the living of Havant, near Portsmouth; the failure, however, of the South Sea scheme, in 1720, in which he had embarked the whole of his savings, reduced him to comparative indigence; and his death taking place within three years after, he was not able to retrieve himself. Six of his children survived him; the eldest of whom collected and published his father's works, in 2 vols. folio, 1725. Among them are a Scholastic History of Lay Baptism, originally printed in 8vo. 1712; and a Discourse on the Mercy of God to Penitent Sinners.

BINGIUM, in ancient geography, a village or town of the Vangiones in Gallia Belgica, now called Bingen.

BINNACLE, or BITTACLE, in navigation, is used to denote the box in which the compass is placed for steering a ship. In all ships steered by a wheel, it is common to have two binnacles, or a double binnacle, for the convenience of the steersman, on either side of the wheel; but in this case the compasses are necessarily so near together as to affect each others direction, and thereby to render doubtful the course of the ship. To avoid this, sliding binnacles are sometimes employed. But those now in general use in the navy are Sir Home Popham's binnacles, being formed agreeably to the instructions of that distinguished officer. They consist of a square box, about two feet high, and eighteen inches on the side, with a top in the form of the frustum of a square pyramid, the bottom of which fits accurately upon the top of the box. The four sides of the frustum are of plate glass, whereby the compass card, which is about level with the upper part of the square box, may be distinctly seen in the day time; and for the night, there are provided thin copper screens, which shut up those sides not necessary for the steersman's immediate purpose, and which at the same time assist to reflect the light of the lamp on the other side, strongly upon the card. The lamp itself is attached to one of these screens, a hole being cut in it just sufficient to admit what light is necessary. As there would be great

liability of breaking these glass faces, the four edges of the frustum are defended by strong wooden frames with projecting edges; and at top with a flat piece of wood that also projects considerably beyond the glass, which latter, by this means, is pretty well protected from injury. See one of these in our plate BINNACLES, fig. 1, and the lamp, fig. 2.

In vol. xxxi. of the Transactions of the Society of Arts, an improved ship's binnacle is described by Mr. G. Preston of Wapping. It has a cylindrical top, which encloses the lamp, and which gives a powerful light vertically on the compass, but is seen by no one except the man at the wheel. Fig. 3 is a representation of this binnacle in perspective, as it stands on the deck of a vessel opposite the steering wheel. Fig. 4 is a section of the box, containing the lamp and reflectors; AA, fig. 3 is a square box closed by a door in front, which is omitted in the drawing, to show the interior. This box is fixed down in a proper situation on the deck, and supported at a convenient height to view the compass card which it contains, the two sides being exactly parallel to the ship's keel. B is a shelf in the box, to support a board C, which exactly fits the box, but having its angles taken off to permit it to slide in and out more freely; it has a stem *a* of brass wire standing up from the centre of it, and terminating in a sharp point, on which the compass card is freely suspended; being then included within a circular hole made in the top of the box, and its divisions reading against a line called by seamen the lubber line, drawn on a piece of white paper seen plainly in the figure. The opening on the top of the box is surrounded by an octangular lantern, which has glass panes in all its sides half way up from the bottom, to admit light in the day time; but at night these are closed by sliding shutters *aaa*. The compass is seen through the glass *b*, which is placed at a proper inclination to command the view of the card: the lamp is situated in a circular box fitted into a ring F, at the top of the lantern frame; and has a dome G with a chimney *d*, to take off the smoke. The section, fig. 4. will explain the interior parts; HH are the sides of a cylindrical box which fits into the ring F. fig. 3.: *ee* and *ff* are the sections of the two brass circles called the gimbals. I I K K is a brass box which fits into the ring F, and has at its bottom a large plane convex lens, K K, which concentrates the light of the lamp above, and throws it down on the card beneath. The lamp, LL is just within the box; it consists of a deep copper hoop, forming the external surface, with a lid at the top, and at bottom half way down, which have each a hole through their centres, and may therefore be considered as rings; another hoop being soldered within these, forms a complete hollow ring in which the oil is contained, as shown at I. L. fig. 4. this being filled at the tubes *gh*. The wick *i* is situated in a kind of spout which proceeds from the interior of the ring to its centre; and being very narrow, diminishes the light very little; for, as shown in the figure, the frame is made to project over the end of it, and then comes in the centre of the hole, that the lens K K may throw the light down with the greatest

*Binnacle,
used in the Royal Navy.*

Fig. 1.

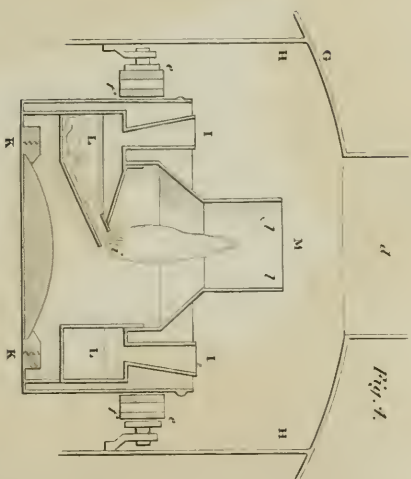
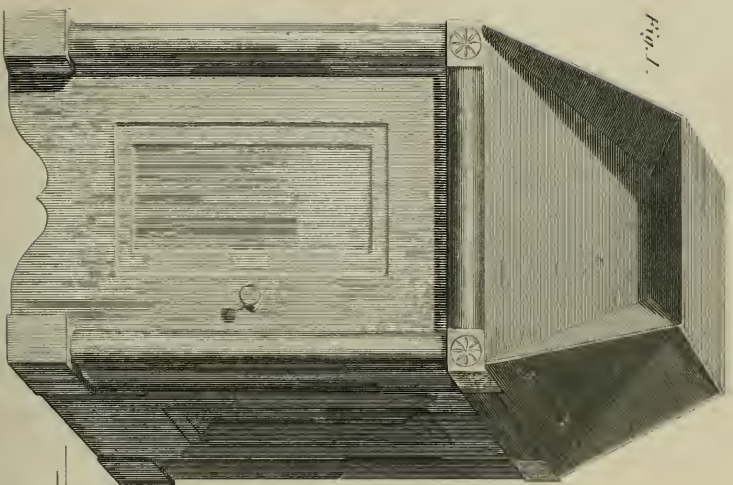


Fig. 4.

Fig. 2.

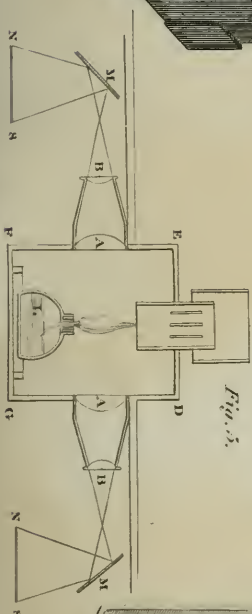


Fig. 5.

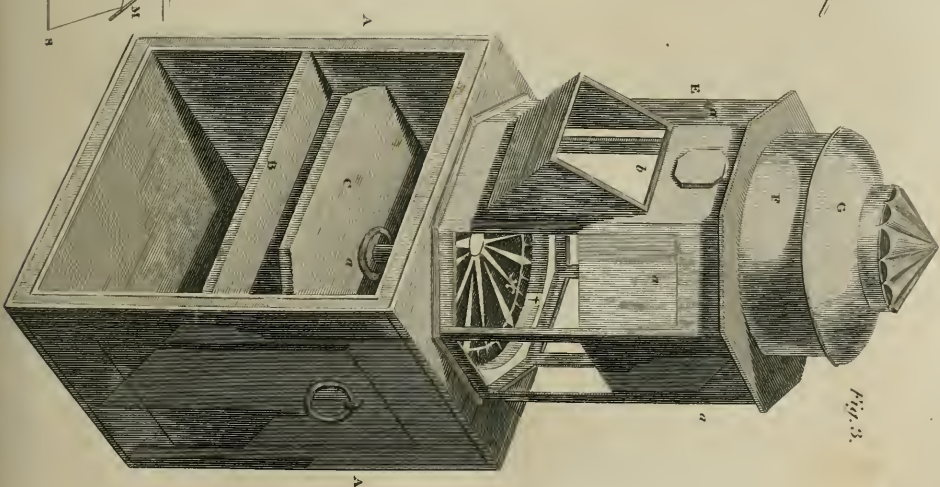


Fig. 3.

effect; and to increase this a reflector is added. M is a kind of conical chimney, which stands over the lamp and includes the light: the conical part *ll* of this is turned within, and well polished to reflect the light downwards. By this means the card is well illuminated, and if the shutters *aaa* are put down, no light is shown which would be perceived by an enemy at sea; for the only aperture *b* directs the light upwards, and that in a direction where it will not fall on any part of the ship. The lamp is trimmed or lighted by taking out the box from the ring at the top of the lantern; the lamp of course comes with it, and there is a hole on one side to give access to it: if it is to be filled with oil, the box is turned upside down, and the gimbal *ef* keeping the lamp horizontal, it may be filled or taken out, to clean the conical reflector, and the lens also if they require it.

Gilbert's double binnacle lamp, is exhibited in fig. 5. DEFG in the lantern and L the lamp; AA are two condensing lenses, and BB two others, so adjusted to these as to throw the light, after being brought to a focus, upon the two mirrors MM, from which it is reflected strongly upon the two cards NS, NS; by a proper adjustment of the two lenses, the light is made to converge and diverge in any degree, and thereby to illuminate the card only. The contrast of this intense light with every thing else dark, renders the card so exceedingly bright, that in the darkest night the steersman sees it more distinctly than in the brightest day; at the same time not a single ray of light escapes that can be seen by an enemy. Messrs. Gilbert have also a single binnacle lamp upon the same principles.

BINNOCH, a Scots patriot, in the days of Robert Bruce, who, during the usurpation of Edward I., assisted Bruce in recovering the castle of Linlithgow from the English. Having been employed to supply the castle with hay, he introduced armed men in his cart without suspicion, who soon made themselves masters of it, and opened the gates to their countrymen. He was rewarded with some lands, which descended to his posterity, the Binnings of Wallyford, who bore for their arms a hay wain, with this motto *Virtute doloque*.

BINOCLE, *n. s.*, from *binus* and *oculus*, a kind of dioptric telescope, fitted so with two tubes joining together in one, as that a distant object may be seen with both eyes together.

Harris.

BINOCULAR, *adj. Lat.*, from *binus* and *oculus*, having two eyes.

Most animals are *binocular*, spiders for the most part *octonocular*, and some *senocular*. Derham.

BINOCULAR TELESCOPE, a kind of dioptric telescope fitted with two tubes, joined in such a manner that one may see a distant object with both eyes at the same time. See **OPTICS**.

BINODIS, in entomology, a species of formica, a native of Egypt: color black; head rufous; with two tubercles on the petiole.

BINOMIAL, a quantity consisting of two terms or members, connected by the sign + or -, viz. plus or minus; as $a + b$, or $3a - 2c$, or $a^2 + b$, or $x^2 - 2\sqrt{c}$, &c.; denoting the

sum or the difference of the two terms. But the difference is also sometimes named a residual, and by Euclid an apotome. The term binomial was first introduced by Robert Recorde; see his *Algebra*, p. 462.

BINOMIAL CURVE, is a curve whose ordinate is expressed by a binomial quantity; as the curve whose ordinate is $x^2 \times b + dx^{re}$. *Stirling, Method. Diff.* p. 58.

BINOMIAL, IMAGINARY, or BINOMIAL, IMPOSSIBLE, is a binomial which has one of its terms an impossible or imaginary quantity; as $a + \sqrt{-b}$. Dr. Maskelyne has given a method of finding any power of an impossible binomial, by another like binomial, in his introduction prefixed to Taylor's *Tables of Logarithms*; which is as follows: The quantities *a* and *b* being given, it is required to find the power of the impossible binomial $a \pm \sqrt{-b^2}$

whose index is $\frac{m}{n}$, that is, to find $(a \pm \sqrt{-b^2})^{\frac{m}{n}}$

by another impossible binomial, and thence the

value of $(a + \sqrt{-b^2})^{\frac{m}{n}} + (a - \sqrt{-b^2})^{\frac{m}{n}}$ which is always possible, whether *a* or *b* be the greater of the two.

Solution. Put $\frac{b}{a} = \text{tang. } z$, then

$$(a \pm \sqrt{-b^2})^{\frac{m}{n}} = (a^2 + b^2)^{\frac{m}{n}} \times (\cos. \frac{m}{n} z \pm \sqrt{-\sin^2 \frac{m}{n} z}).$$

$$\text{Hence } a + \sqrt{-b^2}^{\frac{m}{n}} + (a - \sqrt{-b^2})^{\frac{m}{n}} = (a^2 + b^2)^{\frac{m}{n}} \times 2 \cos. \frac{m}{n} z = (a \times \sec. z)^{\frac{m}{n}} \times 2 \cos. \frac{m}{n} z = (b \times \text{cosec } z)^{\frac{m}{n}} \times 2 \cos. \frac{m}{n} z,$$

where the first or second of these two last expressions is to be used according as *z* is an extreme or mean arc; or rather because $\frac{b}{a}$ is not only the tangent of *z* but also the tangent of $z + 360^\circ$, $z + 720^\circ$, &c.; therefore the factor in the answer will have several values, viz.—

$$2 \cos. \frac{m}{n} z; 2 \cos. \frac{m}{n} (z + 360^\circ); 2 \cos. \frac{m}{n} (z + 720^\circ), \&c. \text{ the number of which, if } m \text{ and } n \text{ be whole numbers, and the fraction } \frac{m}{n} \text{ in its least}$$

terms, will be equal to the denominator *n*; otherwise, infinite. These computations, it is obvious, may be much facilitated by taking the logarithms of the quantities concerned.

BINOMIAL LINE, or SURD, is that in which at least one of the parts is a surd. Euclid enumerates six kinds of binomial lines or surds,

in the tenth book of his elements, which are exactly similar to the six residuals or apotomes there treated of also, and of which mention is made under the article APOTOME. These apotomes, however, become binomials by only changing the sign of the latter term from minus to plus, which therefore are as below.

BINOMIAL LINES, EUCLID'S SIX.

First $3 + \sqrt{5}$, 4th $4 + \sqrt{3}$,
2d $\sqrt{18} + 4$, 5th $\sqrt{6} + 2$,
3d $\sqrt{24} + \sqrt{18}$, 6th $\sqrt{6} + \sqrt{2}$.

BINOMIAL ROOT, in algebra, a root composed of only two parts connected with the signs plus or minus.—*Harris*.

BINOMIALS, RULES FOR EXTRACTING THE SQUARE ROOTS OF; such as of $a + \sqrt{b}$ or $\sqrt{c} + \sqrt{b}$. Various rules have been given for this purpose. The first is that of Lucas De Burgo, in his Summa de Arith. &c. which is this: When one part, as a , is rational, divide it into two such parts, that their product may be equal to $\frac{1}{4}$ th of the number under the radical b ; then shall the sum of the roots of those parts be the root of the binomial sought: or their difference is the root when the quantity is residual. That is, if $c + e = a$, and $ce = \frac{1}{4}b$; then is $\sqrt{c} + \sqrt{e} = \sqrt{a + \sqrt{b}}$ the root sought. As if the binomial be $23 + \sqrt{448}$; then the parts of 23 are 16 and 7, and their product is 112, which is $\frac{1}{4}$ th of 448; therefore the sum of their roots $4 + \sqrt{7}$ is the root sought of $23 + \sqrt{448}$. De Burgo gives also another rule for the same extractions, which is this. The given binomial being, for example, $\sqrt{c} + \sqrt{b}$, its root will be

$\sqrt{\frac{1}{2}\sqrt{c} + \frac{1}{2}\sqrt{c-b}} + \sqrt{\frac{1}{2}\sqrt{c} - \frac{1}{2}\sqrt{c-b}}$ —So in the foregoing example, $23 + \sqrt{448}$, here $\sqrt{c} = 23$, and $\sqrt{b} = \sqrt{448}$; hence $\frac{1}{2}\sqrt{c} = 11\frac{1}{2}$, and $\frac{1}{2}\sqrt{c-b} = \frac{1}{2}\sqrt{23^2 - 448} = \frac{1}{2}\sqrt{81} = 4\frac{1}{2}$;

therefore $\sqrt{\frac{1}{2}\sqrt{c} + \frac{1}{2}\sqrt{c-b}} = \sqrt{11\frac{1}{2} + 4\frac{1}{2}} = \sqrt{16} = 4$,

and $\sqrt{\frac{1}{2}\sqrt{c} - \frac{1}{2}\sqrt{c-b}} = \sqrt{11\frac{1}{2} - 4\frac{1}{2}} = \sqrt{7}$;

consequently $4 + \sqrt{7}$ is the root sought, as before. Again, if the binomial be $\sqrt{18} + \sqrt{10}$; here $c = 18$, and $b = 10$; therefore $\frac{1}{2}\sqrt{c} = \frac{1}{2}\sqrt{18} = \frac{3}{2}\sqrt{2}$, and $\frac{1}{2}\sqrt{c-b} = \frac{1}{2}\sqrt{8} = \sqrt{2}$; hence, $\sqrt{\frac{1}{2}\sqrt{c} + \frac{1}{2}\sqrt{c-b}} = \sqrt{\frac{3}{2}\sqrt{2} + \sqrt{2}} = \sqrt{\frac{5}{2}\sqrt{2}} = \sqrt{\frac{5}{2}}\sqrt{2} = \sqrt{\frac{5}{2}}\sqrt{2} = \sqrt{\frac{5}{2}}\sqrt{2} = \sqrt{\frac{5}{2}}\sqrt{2}$, and $\sqrt{\frac{1}{2}\sqrt{c} - \frac{1}{2}\sqrt{c-b}} = \sqrt{\frac{3}{2}\sqrt{2} - \sqrt{2}} = \sqrt{\frac{1}{2}\sqrt{2}} = \sqrt{\frac{1}{2}}\sqrt{2} = \sqrt{\frac{1}{2}}\sqrt{2} = \sqrt{\frac{1}{2}}\sqrt{2}$; consequently $\sqrt{\frac{5}{2}}\sqrt{2} + \sqrt{\frac{1}{2}}\sqrt{2}$ or $\sqrt{\frac{5+1}{2}} = \sqrt{3}$ is the

root of $\sqrt{18} + \sqrt{10}$ sought. And this latter rule has been used by all other authors, down to the present time.

BINOMIALS, RULES TO EXTRACT THE CUBIC AND OTHER HIGHER ROOTS OF. This is useful in resolving cubic and higher equations, and was introduced with the resolution of those equations by Tartalea and Cardan. The rules for such extractions are in a great measure tentative. Tartalea, Bombelli, Gerard, Demouivre, and Dr. Wallis, have given rules for extracting the cube roots, &c. of binomials: for which we shall refer to the works of these authors, as the following rule

of Sir Isaac Newton's applies to all roots of binomials whatsoever.

BINOMIALS, SIR ISAAC NEWTON'S RULE FOR ANY ROOT OF. Of the given quantity $a \pm b$, let a be the greater term, and c the index of the root to be extracted. Seek the least number n whose power n^c . can be divided by $a \pm b$ without a remainder. and let the quotient be q ;

Compute $\frac{c}{n} \sqrt[n]{a \pm b} \cdot \sqrt[n]{q}$ in the nearest integer number, which call r ; divide $a \sqrt[n]{q}$ by its greatest rational divisor, calling the quotient s ;

$$r + \frac{n}{1}$$

and let the nearest integer number above $\frac{r + \frac{n}{1}}{2s}$

be t : so shall $\frac{ts \pm \sqrt[n]{t^2 s^2 - n}}{2c \sqrt[n]{q}}$ be the root

sought, if the root can be extracted. And this rule is demonstrated by s'Gravesande in his Commentary on Newton's Arithmetic. And many numeral examples, illustrating this rule, are given in s'Gravesande's Algebra, above-mentioned, p. 100; as also in Newton's Univers. Arith. p. 53, 2d edit. and in Maclaurin's Algebra, p. 118. Other rules may be found in Schooten's Commentary on the Geometry of Des Cartes, and elsewhere.

BINOMIAL SURD. See BINOMIAL LINE.

BINOMIAL THEOREM, in algebra, is used to denote the celebrated theorem invented by Sir Isaac Newton for raising a binomial to any power, or for extracting any root of it by an approximating infinite series. Stifelius and others, about the beginning of the sixteenth century, knew how to raise the integral powers, not barely by a continued multiplication of the given binomial, but by means of a table of numbers formed by continual addition, which showed by inspection the co-efficients of the terms of any power of the binomial contained within its limits; but still they could not, independent of a table, and of any of the lower powers, raise any power of a binomial at once by determining its powers from one another only, viz. the second term from the first, the third from the second, and so on as far as we please, by a general rule, and much less could they extract general algebraic roots in infinite series by any rule whatever. Dr. Hutton has shown, in the Historical Introduction to his Mathematical Tables, p. 75, that Mr. Henry Briggs, about the year 1600, was the first who taught the rule for generating the terms successively one from another of any power of a binomial, independent of those of any other power, for he gives the binomial theorem in words, wanting only the algebraic notation in symbols, as it stands at this day, and as it was extended by Newton to roots or fractional exponents long after Briggs had given it in the case of integral powers. 'The theorem being thus plainly taught by Briggs, about the year 1600, (says Dr. Hutton,) I am surprised, that a man of such general reading, as Dr. Wallis was, could possibly be ignorant of it, as he plainly appears to have been, from the eighty-fifth chapter of his Algebra, where he fully ascribes the invention to Newton; and adds, that 'he himself had formerly sought for such a rule, but without success; or how Mr.

John Bernoulli, not half a century since, could himself first dispute the invention of this theorem with Newton, and then give the discovery of it to Pascal, who was not born till long after it had been taught by Briggs, (see Bernoulli's Works, vol. iv. p. 173.) But I do not wonder that Briggs's remark was unknown to Newton, who owed almost every thing to genius, and very little to reading; and I have no doubt that he made the discovery without any light from Briggs, and that he thought it was new for all powers in general, as it was indeed for roots, and quantities with fractional and irrational exponents. Thus it appears that Briggs discovered in part what Newton afterwards rendered more complete and universal, for he found about the year 1666 that if m were put for any whole number whatsoever, the co-efficients of the terms of

the m th power of $1 + x$ would be $1, \frac{m}{1}, \frac{m}{1},$

$\frac{m-1}{2}, \frac{m}{1}, \frac{m-1}{2}, \frac{m-2}{3},$ &c. till we come

to the term $\frac{m-(m-1)}{m}$, which will be the last

term. But how he discovered this proposition, he has not told us; nor has he even attempted to give a demonstration of it. Sir Isaac Newton, after he had discovered this rule for generating the co-efficients of the powers of $1 + x$, when the indexes of those powers were whole numbers, conjectured that it might be possibly true likewise when they were fractions. He therefore resolved to try whether it was or not, by applying it to such indexes in a few easy instances, and particularly to the indexes $\frac{1}{2}$ and $\frac{1}{3}$, which, if the rule held good in the case of fractional indexes, would enable him to find series equal

to the values $1 + x^{\frac{1}{2}}$ and $1 + x^{\frac{1}{3}}$, or the square root and cube root of the binomial $1 + x$, and when he had in this manner obtained a series for $1 + x^{\frac{1}{2}}$ or the square root of $1 + x$, he multiplied the said series into itself, and found that the product was $1 + x$; in like manner he obtained a series which he suspected to be equal to $1 + x^{\frac{1}{3}}$, and by multiplying the said series twice into itself, the product he found to be $1 + x$, hence he concluded that the former series was really equal to the square root of $1 + x$, and the latter to its cube root, and from these and a few more such trials he concluded universally, that the rule was true in all cases, whether the index m stood for a whole number, or a fraction of any

kind as $\frac{1}{2}, \frac{1}{3}, \frac{2}{3},$ or in general, $\frac{p}{q}$. This discovery of Newton's appears first to have been given to the world, but without a demonstration, by Dr. Wallis in his Algebra, chap. 85, in the year 1685, though it was inserted in Sir Isaac's first letter to Mr. Oldenburgh, the secretary to the Royal Society, dated July 13th, 1676; and the said letter was shown to Mr. Leibnitz, and probably to other mathematicians of that time, yet it remained for some years without a demonstration, either in the case of integral powers or roots. At last it was demonstrated, in the case of integral powers, by means of the properties of

figurate numbers, by Mr. James Bernoulli, in the third chapter of his Treatise de Arte Conjectandi, published in 1713, about eight years after his death, but probably written in the latter years of the preceding century. That part of his book relating to the properties of figurate numbers, from which the binomial theorem may be deduced, was published at his native place Basil or Basle in Switzerland, in 1692. Various other demonstrations have been given of this very important theorem by more modern mathematicians, some of which are by means of the doctrine of Fluxions (which see), and others more legally from the pure principles of algebra only; among the best of that kind is that given by Dr. Hutton in his Mathematical Tracts, vol. i. where a full account is given of what others have done upon this subject. A demonstration of it is also given from algebraical principles, by Mr. Abram Robertson of Oxford, in the London Philosophical Transactions for 1795, part ii. The binomial theorem is engraved on Sir Isaac Newton's monument in Westminster Abbey as one of his greatest discoveries.

The Newtonian theorem, in one of its most simple forms is $(1 + p)^n = 1 + np + \frac{n \cdot n - 1}{2}$

$p^2 + \frac{n \cdot n - 1 \cdot n - 2}{2 \cdot 3} p^3,$ &c.; and the following

improvement of it is given by Dr. Hutton, in the Appendix to his Mathematical and Philosophical Dictionary, where it is said to have been lately discovered by Mr. Bonnycastle of the Royal Military Academy, and then published for the first time. Let $s = p - \frac{1}{2} p^2 + \frac{1}{3} p^3 - \frac{1}{4} p^4 + \frac{1}{5} p^5,$ &c. This series, as is well known, is equal to the hyperbolic logarithm of $1 + p$. The improved form of the theorem is this,

$(1 + p)^n = 1 + sn + \frac{1}{2 \cdot 3} s^2 n^2 + \frac{1}{2 \cdot 3 \cdot 4}$

$s^4 n^4,$ &c. Also if $s = p + \frac{1}{2} p^2 + \frac{1}{3} p^3 + \frac{1}{4} p^4 + \frac{1}{5} p^5,$ &c. or the hyperbolic logarithm of $1 - p$, then

$(1 - p)^n = 1 - sn + \frac{1}{2 \cdot 3} s^2 n^2 - \frac{1}{2 \cdot 3 \cdot 4}$

$s^4 n^4,$ &c.

Dr. Hutton also gives a demonstration of this form of the binomial theorem, and, from principles purely algebraical, he also shows how it may be applied to the construction of logarithms, and the solution of exponential equations; but we must observe, that he is mistaken in supposing this discovery of Mr. Bonnycastle's to be entirely new, and that it was never before published; for the same series for a binomial is taken notice of by Euler in different parts of his writing. It is particularly mentioned in his Calculus Differentialis, part 2. chap. iv., where he says that a^w

$= 1 + \frac{w \cdot \log. a}{1} + \frac{w^2 \cdot (\log. a)^2}{1 \cdot 2} + \frac{w^3 \cdot (\log. a)^3}{1 \cdot 2 \cdot 3},$

&c. the very same, he adds, that had formerly been obtained in the Introduction (Int. in Anal. infin). We have been induced to mention this oversight of Dr. Hutton's, rather with a view to prevent our readers from being led into a mistake concerning the inventor of this form of the binomial theorem, than to cavil at a gentleman, who

has done so much for the improvement of the science of mathematics.

BINOMINOUS, *adj.* Lat., from *b'nus* and *nomen*, having two names.

BINOMIUS, from *bis*, and *nomen*, name; in middle age writers, denotes a person with two names. Most Christians anciently were binomii, as having had other names in their heathen state, which they changed at their conversion. Besides, it was an ancient custom for parents to give names to their children immediately after they were born, and sometimes other ones afterwards at their baptism; one of which frequently became a cognomen, or surname. It was a constant practice to assume a new name at baptism, as the religious still do in the Romish church, on their reception into the monastic state; and Jewish proselytes at their circumcision.

BINTANG, an island in the Eastern seas, on the coast of Malacca, at the entrance of the straits of Singapore. It is about thirty-five miles in length, and eighteen in breadth, surrounded by rocky islets. The island produces gold dust; its principal town is Reheo or Rio, which was taken and destroyed by the Portuguese in 1527, and is governed by a sultan. Long. 104° 30' E., lat. 1° 2' N.

BIOBIO, or **ΒΙΟΒΙΟ**, a large river of Chili; rises in the Andes, and after running through veins of gold and fields of sarsaparilla, enters the South Sea, near the city of Concepcion, opposite the Isle of Avequirinà, in lat. 37° 0' S. It is the northern boundary of Chili, and its entrance known by two remarkable hills, called the Teats of Biobio, which are situated at the north, betwixt it and the bay of Concepcion, and serve to both as land-marks for navigators. It is about one mile across at the mouth, has good depth of water in the middle, and the tide rises about seven feet and a half at the full and change of the moon.

BIOCOLYTE, from *βία*, violence, and *καλνω*, to hinder; in the Byzantine empire, an order of officers appointed to prevent the violence frequently committed by the soldiers. They were suppressed by the emperor Justinian.

BIOGRAD, a town of Dalmatia, anciently Alba Maritima, and the former residence of the kings of Croatia. It has a good harbour at a distance from the town, secured by several small islands, and is considered as belonging to the county of Zara; being nearly twenty miles south-east of the town of that name.

BIOGRAPHER, } From *βίος*, life, and
BIOGRAPHY, } *γραφω*, I write. Biogra-
BIOGRAPHICAL. } phy is that portion of li-
terature which is devoted to the lives of individuals.

Our Grub-street *biographers* watch for the death of a great man, like so many undertakers, on purpose to make a penny of him. *Addison.*

In writing the lives of men, which is called *biography*, some authors place every thing in the precise order of time when it occurred. *Watts.*

The necessity of complying with times, and of sparing persons, is the great impediment of *biography*. *Johnson.*

BIOGRAPHY is undoubtedly the most entertaining and instructive kind of history. It admits of all the painting and passion of romance; but with this capital difference, that our passions are more keenly interested, because the characters and incidents are not only agreeable to nature, but strictly true. Few books more attract or are more proper to be put into the hands of young people, than those of a biographical kind. The history of this study is that of the whole republic of letters. We would only suggest that groups of biographical memoirs, chronologically arranged, are much wanted as a kind of appendix to all our popular histories.

BIOLYCHNIUM, from *βίος*, life, and *λυχιος*, light; a substantial fire, flame, or heat, which some ancient physicians supposed inherent or actually lodged in the heart, and remaining there as long as life lasts. Some would have it to have been the human soul, others the animal spirits, and others the Deity, that did the office of a biolychnium, and was the spring of all the actions and motions of the body. Casp. Hoffman and Coringius have written treatises on the ancient doctrine of the lamp of light or innate heat.

BION, a bucolic poet, a native of Smyrna, lived at the same time with Ptolemy Philadelphus, whose reign reached from the fourth year of the 123d Olympiad to the second year of the 133d. He was an incomparable poet, if we may believe the lamentations of his disciple Moschus. His few pieces which are left do not contradict this testimony.

BRON, surnamed Borysthenites, because he was a native of Borysthenes, was a philosopher of a great deal of wit, but very little religion: he flourished about the 120th Olympiad; but falling sick, like many other profane persons, he became superstitious.

BIORKO, an island of Sweden, in the Malar, three miles from Stockholm, where anciently stood Birca.

BIOTA, in zoology, a name introduced by Dr. Hill for the **POLYPE**, which see.

BIO THANATI, from *βία*, violence, and *θανατος*, death, in some medical writers denotes those who die a violent death. The word is also written, and with more propriety, *biathanati* sometimes *biathanati*. In a more particular sense, it denotes those who kill themselves. In this sense the word is used both by Greek and Latin writers. See **SEICIDE**.

Also a name of reproach given by the Heathens to the primitive Christians, for their constancy and forwardness to lay down their lives in martyrdom.

B'OVAC, *n. s.* } Fr. from *wey wach*, a
B'NOVAC, } double guard, Germ. See
B'VOUAC. } **BIVOUAC**.

BIPAROUS, *adj.* Lat. from *binus* and *pario*. Bringing forth two at a birth.

BIPARTITE, *adj.* Lat. from *binus* and *partior*. Having two correspondent parts; divided into two.

BIPARTITION, *n. s.* from bipartite. The act of dividing into two; or of making two correspondent parts.

BIP'ED, *n. s.* Lat. *bipes*. An animal with two feet.

No serpent, or fishes oviparous, have any stones at all; neither *biped* nor quadruped oviparous have any exteriorly. *Brown's Vulgar Errors.*

BIP'EDAL, *adj.* Lat. *bipedalis*. Two feet in length; or having two feet.

BIPEN'NATED, *adj.* Lat. from *binus* and *penna*, having two wings.

All *bipennated* insects have poises joined to the body. *Derham.*

BIPENNIS, a two-edged axe, used anciently by the Amazons in fight; as well as by the seamen, to cut asunder the cordage of the enemy's vessels. It was a weapon chiefly of the oriental nations, made like a double axe, or two axes joined back to back, with a short handle. Modern writers usually compare it to our halberd or partizan; from which it differs in that it had no point, or that its shaft or handle was much shorter.

BIPET'ALOUS, *adj.* Lat. of *bis*, and Gr. *πεταλον*. A flower consisting of two leaves.

BIPPLICATA, in conchology, a species of *Voluta*. It is of a tapering shape, smooth, white spotted with yellow, and dotted with black; lip acute; pillar with two plaits.

BIPUNCTARIA, in entomology, a species of *phalæna*, geometra; anterior wings cinereous, undulated with brown; a dusky band in the middle, and two black dots.

BIPUNCTATA, a species of *apis*, inhabiting Siberia. This insect is black, hairy, and with two yellow belts; the first with two lateral black dots. Also a species of *aranea*, with a black, globose abdomen, marked with two excavated dots.

BIPUNCTATUM, a species of *opatrum*, color brown, thorax cylindrical and immarginate, with two hollows.

BIPUNCTATUS, a species of *bruchus*, inhabiting Helvetia. It is cinereous; wing-cases brown, with an ocellar, black dot at the base of each. Also, a species of *carabus*, of a brassy color, with two dots on the wing-cases.

BIPUNCTELLA, in entomology, a species of *phalæna*, tineæ, wings cinereous brown, with a marginal white spot. Also a species of *phalæna*, tineæ, with fuscous wings, with a common denotated white stripe; thorax snowy-white with two black spots. This is *tineæ echiella* of Schmettler.

BIPUSTULATA, a species of *cantharis*, malachius, of a green color; apex of the wing-cases red. This is *thelephorus viridianus nitidus* of Degeer.

BIPUSTULATUM, a species of *opatrum*, inhabiting Pomerania. Its form is narrow and elongated; color ferruginous: wing-cases slightly grooved.

BIPUSTULATUS, a species of *attelabus*; found in North America: color black, with a rufous spot at the base of each of the wing-cases.

BIQUAD'RATE, } *n. s.*, in algebra. The
BIQUAD'RATE, } fourth power, arising from
the multiplication of a square number or quantity by itself. *Harris.*

BIQUADRATIC EQUATION, is that which rises to four dimensions, or in which the unknown quantity rises to the fourth power; as $x^4 + ax^3 +$

$bx^2 + cx + d = 0$. The first resolution of a biquadratic equation was given in Cardan's Algebra, chap. 39, being the invention of his pupil and friend, Lewis Ferrari, about the year 1540. This is effected by means of a cubic equation, and is indeed a method of depressing the biquadratic equation to a cubic, which Cardan demonstrates and applies in a great variety of examples. We subjoin

Euler's Rule for BIQUADRATIC EQUATIONS, The celebrated Leonard Euler gave, in the sixth volume of the Petersburg Ancient Commentaries, for 1738, an ingenious and general method of resolving equations of all degrees, by means of the equation of the next lower degree, and among them of the biquadratic equation by means of the cubic; and this last was also given more at large in his Treatise on Algebra translated from the German into French in 1774, in 2 vols. 8vo. The method is this: Let $x^4 - ax^2 - bx - c = 0$, be the given biquadratic equation, wanting the second term. Take $f = \frac{1}{2}a$, $g = \frac{1}{10}aa + \frac{1}{4}c$, and $h = \frac{1}{15}bb$; with which values of f, g, h , form the cubic equation, $z^3 - fz^2 + gz - h = 0$. Find the three roots of this cubic equation, and let them be called p, q, r . Then shall the four roots of the proposed biquadratic be these following, viz.

When $\frac{1}{2}b$ is positive;	When $\frac{1}{2}b$ is negative:
1st. $\sqrt{p} + \sqrt{q} + \sqrt{r}$,	$\sqrt{p} + \sqrt{q} - \sqrt{r}$,
2d. $\sqrt{p} + \sqrt{q} - \sqrt{r}$,	$\sqrt{p} - \sqrt{q} + \sqrt{r}$,
3d. $\sqrt{p} - \sqrt{q} + \sqrt{r}$,	$-\sqrt{p} + \sqrt{q} + \sqrt{r}$,
4th. $\sqrt{p} - \sqrt{q} - \sqrt{r}$.	$-\sqrt{p} - \sqrt{q} - \sqrt{r}$.

The following is Mr. SIMPSON'S RULE. Mr. Simpson gave also a general rule for the solution of biquadratic equations, in the second edition of his Algebra, p. 150, in which the given equation is also resolved by means of a cubic equation, as well as the two former ways; and it is investigated on the principle, that the given equation, is equal to the difference between two squares; being indeed a kind of a generalisation of Ferrari's method. Thus, he supposes the given equation, viz.

$x^4 + px^3 + qx^2 + rx + s = x^2 + \frac{1}{2}px + A^2 - Bx + C^2$; then from a comparison of the like terms, the values of the assumed letters are found, and the final equation becomes

$$\Delta^3 - \frac{1}{2}q\Delta^2 + k\Delta - \frac{1}{2}l = 0$$

where $k = \frac{1}{4}pr - s$, and $l = \frac{1}{4}r^2 + s - \frac{1}{4}p^2 - q$. The value of A being found in this cubic equation, from it will be had the values of B and C , which have these general values, viz.

$$pA - r$$

$$B = \sqrt{2A + \frac{1}{4}p^2 - q} \text{ and } C = \frac{2B}{2B}$$

finally, the root x will be obtained from the assumed equation $x^2 + \frac{1}{2}px + A^2 - Bx + C^2 = 0$, or $x^2 + \frac{1}{2}px + A = \pm Bx \pm C$, in four several values. Mr. Simpson subjoins an observation, viz. that 'the value of A , in this equation, will be commensurate and rational, and therefore the easier to be discovered, not only when all the roots of the given equation are commensurate, but when they are irrational and even impossible.' But this has since been found erroneous, as the instances in which it holds true,

are very few indeed, in comparison with the number of those in which it fails. For other methods of solving biquadratic equations, see ALGEBRA. For the construction of biquadratic equations, see *Des Cartes's Geometry*, with the *Commentaries of Schooten and others*.

BIQUADRATIC PARABOLA, a curve of the third order, having two infinite legs, and expressed by one or other of these three equations, viz.

$$a^2 x = y^3, \text{ as in fig. 1.}$$

$$a^2 x = y^3 - a^2 y^2, \text{ as in fig. 2.}$$

$$a^2 x = y^3 - a + b \cdot y^3 - ab y^2, \text{ as in fig. 3,}$$

Fig. 1.



Fig. 2.

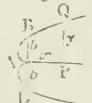
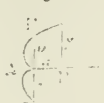


Fig. 3.



where $x = AP$ the absciss $y = PQ$ the ordinate, $b = AB$, $c = AC$, and $a =$ a certain given quantity. But the most general equation of this curve is the following, which belongs to fig. 4.

$$ay = x^4 + bx^3 + cx^2 dx + e;$$

Fig. 4.

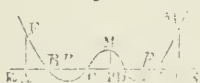
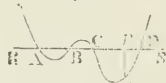
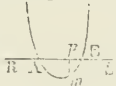


Fig. 5.



where $x = Ap$ or AP the absciss, and $-y$ or $+y$ is the ordinate pm or PM , also a, b, c, d, e , are constant quantities; the beginning of the absciss being at any point A in the indefinite line AP . But if the beginning of the absciss A be where this line intersects the curve, as in fig. 5, then the nature of the curve will be defined by this equation $a \times pm = Ap \times Bp \times Cp \times Dp$, wherever the point p is taken in the infinite lines RS . When the curve has no serpentine part, as fig. 6, the equation is more simple, being in this case barely $a \times pm = Ap^2 \times pB$.

Fig. 6.



BIQUADRATIC POWER is the squared square, or fourth power of any number or quantity. Thus sixteen is the biquadrate, or fourth power of two, or it is the square of four, which is the second power of two.

BIQUADRATIC ROOT, of any quantity, is the square root of the square root, or the fourth root of that quantity. So that the biquadratic root of sixteen is two, and the biquadratic root of eighty-one is three.

BIQUALAR, among the Algerines, a cook of the divan.

BIQUINTILE, an aspect of the planets, when they are 144 degrees distant from each other. It is thus called, because they are distant from one another by twice the fifth part of 360 degrees.

BIR, or **BEER**, a town of Asiatic Turkey, in the province of Diarbeck, with a castle where the governor resides, seated on the eastern bank of the Euphrates. Long. $38^\circ 6'$ E., lat $36^\circ 10'$ N.

BIRAGUE (Clement), a Milanese engraver, and the inventor of the art of cutting diamonds,

flourished about A. D. 1580. His first performance on stone was a portrait of Don Carlos, prince of Spain. He lived long at the court of Philip II.

BIRAO, in botany, the name given by the inhabitants of the Philippine islands to a plant more commonly known among botanical writers by the name tugus, and supposed by Camelli, who carefully observed it on the spot, to be the true amomum of the ancient Greeks.

BIRBHOOM, a district of Bengal. See **BENGAL**.

BIRCH TREE, *n. s.* Sax. *birc*, Lat. *betula*. The leaves are like those of the poplar; the shoots are very slender and weak; the catkins are produced at remote distances from the fruits, on the same tree; the fruit becomes a little squamose cone; the seeds are winged, and the tree casts its outer rind every year. *Miller*.

BIRCH, in botany. See **BETULA**. Various uses are made of different parts of this tree, particularly, 1. Birch bark, being bituminous and consequently warm and emollient, is used in fumigations to correct a distempered air. The inner silken bark was anciently used for writing tables before the invention of paper; though Ray rather assigns the office of paper to the cuticle, or outer skin, which peels off yearly. And with the outward, thicker, and coarser part, are houses in Russia, Poland, and other northern tracts, covered, instead of slates and tile. The Indians make pinnaces with white cedar, which they cover with large flakes of birch bark; sewing them with thread of spruce roots, and pitching them, as the ancient Britons did, with the willow. Pliny speaks of a bitumen actually procured from the birch tree.

BIRCH (Thomas), D. D. historical and biographical writer, was born in London in 1705. His parents were Quakers; and his father, Joseph Birch, a coffee-mill maker by trade. The son, by unremitted diligence, though he had not an university education, became qualified to take orders in the church of England. In 1728 he married the daughter of the Rev. Mr. Cox, to whom he was curate; but his felicity was of short duration, Mrs. Birch dying in less than twelve months after their marriage. In 1732 he was recommended to lord chancellor Hardwicke, then attorney-general; to whom, with the succeeding Earl, he was indebted for all his preferments. He was first presented with the living of Ulting in Essex in 1732. Mr. Birch was chosen a member of the Royal Society, Feb. 20th 1734-5; and of the Society of Antiquaries, Dec. 11th 1735, of which he afterwards became director till his death. Before this, the Marischal College of Aberdeen conferred on him, by diploma, the degree of M. A. 1743. By the interest of Lord Hardwicke, he was now presented to the sinecure rectory of Llandwney Wrefey in Pembrokeshire; in 1743-4, to the rectory of Siddington St. Peter's, in Gloucestershire, and soon after, to the united rectories of St. Michael, Wood-street, and St. Mary, Staining; and in 1745-6, to those of St. Margaret Pattens, and St. Gabriel, Fenchurch-street.—In Jan. 1752, he was elected one of the secretaries of the Royal Society. In 1753 the Marischal College of Aberdeen created him D. D. He

also became one of the trustees of the British Museum; and in 1761, rector of Debden in Essex. In the latter part of his life he was chaplain to the princess Amelia. His health declining in 1765, he was ordered to ride for the recovery of it; but going out for this exercise, January 9th 1766, was unfortunately thrown from his horse, on the road betwixt London and Hampstead, and died on the spot, in the sixty-first year of his age. He bequeathed his library of books and MSS. to the British Museum. He likewise left about £300 to be laid out in government securities, for the purpose of increasing the stipend of the three assistant librarians of that establishment. His principal publications were, 1. The General Dictionary, Historical and Critical; including a new translation of Mr. Bayle, and interspersed with several thousand new lives. The whole design was completed in 10 volumes folio. 2. Dr. Cudworth's Intellectual System (improved from the Latin edition of Mosheim), his Discourse on the true Notion of the Lord's Supper, and two Sermons, with an Account of his Life and Writings, 2 vols. 4to. 1743. 3. The Life of the Hon. Robert Boyle, 1744; prefixed to an edition of that excellent philosopher's works, revised by Dr. Birch. 4. Lives of Illustrious Persons of Great Britain, annexed to the engravings of Houbraken and Vertue, 1746—1752. 5. An Enquiry into the Share which King Charles I. had in the Transactions of the Earl of Glamorgan. 1747, 8vo. 6. An edition of Spenser's Fairy Queen, 1751, 3 vols. 4to. with prints from designs by Kent. 7. The Miscellaneous Works of Sir Walter Raleigh; to which was prefixed the Life of that great man, 1751, 2 vols. 8vo.. 8. The Theological Moral, Dramatic, and Poetical Works of Mrs. Catharine Cockburn; with an Account of her Life, 1751, 2 vols. 8vo.. 9. The Life of Dr. John Tillotson, Archbishop of Canterbury; compiled chiefly from his original Papers and Letters, 1752, 8vo. 10. Milton's Prose Works, 1753, 2 vols. 4to; with a New Life. 11. Memoirs of the reign of Queen Elizabeth, from 1581 till her death, 1754, 2 vols. 4to. 12. The History of the Royal Society of London for Improving Natural Knowledge, from its first rise, 4 vols. 4to. 1756 and 1757. 13. The Life of Henry Prince of Wales, eldest son of king James I. compiled chiefly from his own papers and other MSS., 1760, 8vo. His numerous communications to the Royal Society may be seen in the Philosophical Transactions, &c. Dr. Birch was a pioneer of literature; to him Dr. Johnson was repeatedly obliged for literary information: he bestowed on him a Greek epigram, and for many years corresponded with him. But he is said to have satirically observed—'Tom Birch is as brisk as a bee in conversation, but no sooner does he take a pen in his hand, than it becomes a torpedo to him, and benumbs all his faculties.'

BIRCH WINE. See BLTULA.

BIRCH'EN, *adj.* from birch. Made of birch.

His beavered brow a *birchen* garland bears. *Pope.*

BIRD (William), an eminent musician and composer, was one of the children of the chapel in the reign of Edward VI., and brought up under Tallis. The early compositions of Bird

were mostly for the service of the church. He published a work entitled *Sacrarum Canticorum, quinque vocum*, in 1589; among which is that noble composition *Civitas Sancti tui*, which has so long been sung as an anthem to the words 'Bow thine ear, O Lord.' He was also the author of a work entitled *Gradualia, ac Canticiones Sacre, Quinis, Quaternis, Trinisque vocibus Concinnatæ, lib. primus*. Of this there are two editions, the latter published in 1610. He seems to be the first among English musicians that ever made an essay in the composition of that elegant species of vocal harmony, the madrigal; the *La Virginella* of Ariosto, which he set in that form for five voices, being the most ancient English musical composition of the kind. Of his compositions for private entertainment, there are extant, Songs of sundry Natures, some of Gravities, and others of Myrth, fit for all Companies and Voyces, printed in 1589; and two other collections of the same kind, the last printed in 1611. But the most permanent memorials of his fame are his motets and anthems; to which may be added, a fine service in the key of D with the minor third, the first composition in Dr. Boyce's Cathedral Music, vol. iii. and that well-known canon of his, *Non nobis Domine*. Bird died in 1623.

BIRD (Edward), R. A. a painter of eminence, who died at Bristol in November, 1819. He excelled in comic subjects, and was at once distinguished for an accurate attention to nature, and facility of execution. He was patronised by the marquis of Stafford, who placed in his celebrated gallery, among the works of the old masters, the first picture of any consequence painted by Bird. His 'Chevy Chase' procured him the appointment of historical painter to the princess Charlotte of Wales; his 'Psalm Singers' in a country church was painted for his majesty: others of his productions are in the collections of various amateurs.

BIRD', *v. & n.*

BIRD'ING,
BIRD'CAGE,
BIRD'CATCH'ER,
BIRD'ER,
BIRD'BOLTS,
BIRD'EYE,
BIRD'EYED',
BIRD'ING-PIECE,
BIRD'LIKE,
BIRD'LIME,
BIRD'LIMED,
BIRD'LOOPS,
BIRD'MAN,
BIRD'SPELLING.

Ang.-Sax. *bræidan*, to broaden, that is to spread, or to expand, as with wings—hence the application of the word as a generic description of the feathered tribe. Johnson, however, derives it from the Saxon, *bird* or *brud*, a chicken. In common talk, *fowl* is used for the larger, and *bird* for the smaller kind of feathered animals.

On every bough, the *birdes* herd I syng
With voice of angell, in hir harmonie.

Chaucer. Assemblie of Fowls.

And all the while sweet musike did divide
Her looser notes, with Lydian harmony;
And all the while sweet *birdes* thereto applide
Their daintie layes and dulcet melody,
By caroling of love and iollity. *Spenser.*

How Michael the archangel shall sound his trumpet, how he shall gather all the scattered Jewes in the Holy Land, and there make them a great banquet, wherein shall be all the *birds*, beasts,

fishes that ever God made, a cup of wine that grew in Paradise, and hath been kept in Adam's cellar ever since. At the first course shall be served in that great oxe, in Job. iv. 10. 'that every day feeds on a thousand hills;' Psal. 1. 10, that great leviathan and a great *bird*, that laid an egge so big, that by chance tumbling out of the nest, it knocked down 300 tall cedars, and breaking as it fell drowned 160 villages. This *bird* stood up to the knees in the sea, and the sea was so deep, that a hatchet would not fall to the bottom in seven years. *Burton. Anat. Mel.*

The poor wren,
The most diminutive of *birds*, will fight,
Her young ones in her nest, against the owl.

Shakspeare.

I do invite you to-morrow morning to my house to breakfast; after we will a *birding* together. *Id.*

To be generous and of free disposition, is to take those things for *birdbolts* that you deem cannon bullets. *Id.*

I will creep up into the chimney.—There they always use to discharge their *birding*-pieces; creep into the kill hole. *Id.*

And on her shield the lone *bird* might be seen,
The Arabian bird shining in colours new;
Itself unto itself was only mate;
Ever the same but new in newer date:
And underneath was writ 'such is chaste single state.'
Fletcher. Purple Island.

A poor lark entered into a miserable expostulation with a *birdcatcher*, that had taken her in his net.

L'Estrange.

As a fowler was bending his net, a blackbird asked him what he was doing: why, says he, I am laying the foundations of a city; and so the *birdman* drew out of sight. *Id.*

Holly is of so viscous a juice, as they make *birdlime* of the bark of it. *Bacon's Nat. Hist.*

As the wakeful *bird*
Sings dorkling, and in shadiest covert hid
Tunes her nocturnal note. *Milton.*

With stores of gather'd glue contrive
To stop the vents and crannies of their hive;
Not *birdlime*, or Idean pitch, produce
A more tenacious mass of clammy juice. *Dryden.*

There sings
A *bird* unseen—but not remote—
Invisible his airy wings,
But soft as harp that Houri strings
His long entrancing note. *Byron. Bride of Abydos.*

BIRD, BLACK. See TURDUS.

BIRD, BLUE. See MOTACILLA.

BIRD-CALL, or DECOY-BIRD, a bird trained up to call and allure other birds into the fowlers' nets. See BIRD-CATCHING.

BIRD, CANARY. See FRINGILLA.

BIRD, DUNG. See UPUA.

BIRD, HUMMING. See TROCHILUS.

BIRD, MESSAGE, avis internuncia, a peculiar species of birds employed to carry letters either for expedition or safety. See CARRIER PIGEON.

BIRD, MOCKING. See TURDUS.

BIRD OF PARADISE. See PARADISE.

BIRDS, CYPRIAN, aves cyprice, a kind of odorous candles.

BIRDS, METHOD OF MAKING FEATHERED PICTURES OF. Mr. Edwards, in his Natural History of Birds, vol. ii. p. 119, gives the following recipe for making pictures of birds with their natural feathers: First, take a thin board, or pannel of deal or wainscot, well seasoned,

that it may not shrink: then smoothly paste on it white paper, and let it dry; and if the wood casts its color through, you may paste on a second paper; let the second paper dry; then get ready any bird, and draw it as exact as may be on your papered pannel, of its natural size; middle sized birds are best for this work, then paint what ground-work, or tree, or other thing you design to set your bird on, together with the bill and legs of the bird in water-colors, leaving the bird to be covered with its own natural feathers. You must prepare the part to be feathered, by laying on pretty thick gum Arabic, dissolved in water, with a large hair-pencil; then lay the pannel flat, and let it dry hard; when dry, cover it with gum-water a second time, and let it dry; and then a third, in case it does not lie with a good body on the paper; the thickness of a shilling, when dried hard, is sufficient. When your piece is prepared, take the feathers off from your bird as you use them; beginning always at the tail and points of the wings, and working upwards to the head; observing to cover that part of your draft with the feather that you take from the same part in your bird, letting them fall one over another in their natural order: you must prepare your feathers by cutting off the downy part that is about their bottoms; and the larger feathers must have the insides of their shafts shaved off with a knife to make them lay flat; the quills of the wings must have their inner webs clipped off, that in laying them the gum may hold them by their shafts. When you begin to lay them, take a pair of steel pliers to hold the feathers in; and have some gum-water, not too thin, and a large pencil, ready to moisten the gummed ground-work by little and little as you work it: then lay your feathers on the moistened parts; which must not be waterish, but something tacky or clammy to hold the feathers. You should prepare a parcel of small leaden weights, in the form of sugar-loaves, which you may cast in sand by first making holes in its surface with a pointed stick; these weights will be necessary to set on the feathers you have newly laid on, to hold them to the gum till they are dry: but you must be cautious lest the gum come through the feathers; for it not only smears them, but dries to the bottoms of the weights, and you will be apt to pull off the feathers with the weights, which will disorder your work: when you have wholly covered your bird with feathers, you must, with a little thick gum, stick on a piece of paper cut round, of the bigness and in the place of the eye, which you must color like the eye of the bird. When the whole is dry, dress the feathers round the outline that may chance to stare a little, and rectify what may be mended in any other part: then lay a sheet of clean paper on it, and on that a heavy book, or some such thing, to press it: after which it may be preserved in a frame covered with a glass.

BIRDS, METHODS OF PRESERVING. Various methods have been attempted for preserving birds from putrefaction, so as to retain their natural form and position, as well as the beauty of their colors and plumage. A good antiseptic for animal substances has been much enquired

after; as, for want of it, many curious animals, and birds particularly, from foreign parts, entirely miscarry, and others of the finest plumage are devoured by insects. The following improved methods by Dr. Lettsom seem to be the least troublesome and the most complete:—‘After opening the bird by a longitudinal incision from the breast to the vent; dissecting the fleshy parts from the bones; and removing the entrails, eyes, tongue, and brains (which in large birds may be extracted through the eye-holes with a surgeon’s director), the cavities and inside of the skin are to be sprinkled with the powders mentioned below. Glass eyes, which are preferable to wax, are then to be inserted, and the head stuffed with cotton or tow; and a wire is to be passed down the throat through one of the nostrils, and fixed on the breast bone: wires are also to be introduced through the feet, up the legs and thighs, and inserted into the same bone; next, fill the body with cotton to its natural size, and sew the skin over it: the attitude is lastly to be attended to, and whatever position the subject is placed in to dry, it will be retained afterwards. The drying compound is as follows:—

Corrosive sublimate	$\frac{1}{4}$ lb.
Saltpetre, prepared or burnt .	$\frac{1}{2}$ lb.
Alum burnt	$\frac{1}{4}$ lb.
Flowers of sulphur	$\frac{1}{2}$ lb.
Camphor	$\frac{1}{2}$ lb.
Black pepper	1 lb.
Tobacco, ground coarse . . .	1 lb.

Mix the whole, and keep it in a glass vessel, stopped close. Small birds may be preserved in brandy, rum, arack, or first runnings; though the color of the plumage is liable to be extracted by the spirit. Large sea-fowl have thick strong skins, and such may be skinned; the tail, claws, head, and feet are carefully to be preserved, and the plumage stained as little as possible with blood. The inside of the skin may be stuffed as above. Kuckahn observes (in the Phil. Trans. vol. lx. p. 319,) that ‘baking is not only useful in fresh preservations, but will also be of very great service to old ones, destroying the eggs of insects: and it should be a constant practice once in two or three years to bake them over again, and to have the cases fresh washed with camphorated spirit, or the sublimate solution, which would not only preserve collections from decay much longer, but also keep them sweet.’ But Dr. Lettsom remarks, that ‘Baking is apt to crimp and injure the plumage, unless great care be used: and therefore the proper degree of heat should be ascertained by means of a feather, before such subjects are baked.’ And he prescribes as the best preservative, boxes well glazed: and he adds, ‘When the subject is to be kept for some time in a hot climate, it should be secured in a box filled with tow, oakum, or tobacco, well sprinkled with the sublimate solution.’ In Guiana, the number and variety of beautiful birds is so great, that several persons in the colony advantageously employ themselves, with their slaves and dependents, in killing and preserving these animals for the cabinets of naturalists in different parts of Europe. The method of doing this, as related by Mr. Baucroft (in his Nat. Hist. of

Guiana,) is, ‘to put the bird which is to be preserved in a proper vessel, and cover him with high wines, or the first running of the distillation of rum. In this spirit he is suffered to remain for twenty-four or forty-eight hours, or longer, till it has penetrated through every part of his body. When this is done, he is taken out, and his feathers, which are no ways changed by this immersion, are placed smooth and regular. It is then put into a machine, made for the purpose, among a number of others, and its head, feet, wings, tail, &c. are placed exactly agreeable to life. In this position they are all placed in an oven very moderately heated, where they are slowly dried; and will ever after retain their natural position, without danger of putrefaction.’

BIRDS, SINGING, are, the nightingale, blackbird, starling, thrush, linnet, lark, throistle, Canary bird, bullfinch, goldfinch, &c. See some very curious experiments and observations on the singing of birds.—Philosophical Transactions, vol. lxiii. part. ii. No. 31. Their first sound is called chirp, which is a single sound repeated at short intervals; the next call, which is a repetition of one and the same note; and the third sound is called recording, which a young bird continues to do for ten or eleven months, till he is able to execute every part of his song; and when he is perfect in his lessons, he is said to sing his song round. Mr. Pennant has proved their notes to be no more innate than language in man; they all sing in the same key; and the honorable Daines Barrington has attempted to reduce their comparative merits to a scale; and to explain first how they came to have particular notes. See SONG OF BIRDS.

BIRD-BOLT, a small arrow with three heads, which was discharged at birds from a cross-bow. This arrow is borne in coat-armour as in the annexed figure. *Argent three bird-bolts sable.*



BIRD-CALL, a little stick cleft at one end, in which is put a leaf of some plant, wherewith to counterfeit the crier’s call of several birds, and bring them to the net, or snare, or lime-twig, to be taken. A laurel-leaf fitted on the bird-call, counterfeits the voice of lapwings; a leaf that of nightingales, &c.

BIRD-CATCHING the art of taking birds or wild-fowl, whether for food, for the pleasure of their song, or for their destruction, as being pernicious to the husbandman, &c. The methods are by birdlime, nets, decoys, &c. See BIRDLIME, and DECOY.

In the suburbs of London there are many persons, who, during the months of October and March, get their livelihood by an ingenious, and we may add, a scientific, method of bird-catching, which is totally unknown in other parts of Great Britain. The reason of this trade being confined to so small a compass arises from there being no considerable sale for singing birds except in the metropolis: and as the apparatus for this purpose is heavy, and must be carried on a man’s back, it prevents the bird-catchers going to above three or four miles distance. This method of bird catching must have been long prac-

tised, as it is brought to a most systematic perfection, and is attended with very considerable expense. The nets are a most ingenious piece of mechanism; are generally twelve yards and a half long, and two and a half wide; and no one, till he becomes eye-witness of the puller's success, would imagine that a bird, which is so very quick in all its motions, could be caught by the nets flapping over each other. The wild birds fly, as the bird-catchers term it, chiefly during the month of October, and part of September and November; as the flight in March is much less considerable than that of Michaelmas. The several species of birds of flight do not make their appearance precisely at the same time, during the months of September, October, and November. The pipit, a small species of lark, but inferior to the others in singing, for example, begins to fly about Michaelmas, and then the woodlark, linnet, goldfinch, chaffinch, greenfinch, and other birds of flight succeed; all of which are not easily caught, or in any numbers at any other time; and more particularly the pipit and the woodlark. These birds, during the Michaelmas and March flights, are chiefly on the wing from day-break to noon, though there is afterwards a small flight from two till night; but this is so inconsiderable, that the bird-catchers take up their nets at noon. It well deserves the attention of the naturalist whence these periodical flights of certain birds arise. As the ground, however, is ploughed during the months of October and March for sowing the winter and spring corn, it should seem that they are thus supplied with a profusion both of seeds and insects, which they cannot so easily procure at any other season. It has been observed, too, that during their sitting, they fly always against the wind: hence there is a great contention amongst the bird-catchers who shall gain that point; if, for example, it is westerly, the bird-catcher who lays his nets most to the east is sure almost of catching every thing, provided his call-birds are good: a gentle wind to the south-west generally produces the best sport. The bird-catcher generally carries with him five or six linnets, of which more are caught than any other singing bird, two goldfinches, two greenfinches, one woodlark, one redpoll, a yellow hammer, titlark, and aberdavine, and perhaps a bullfinch; these are placed at small distances from the nets in little cages. He has besides what are called slur-birds, which are placed within the nets, are raised upon the slur, and gently let down at the time the wild bird approaches them. The slur is a movable perch to which the bird is tied, and which the bird-catcher can raise at pleasure by means of a long string fastened to it. The slur birds generally consist of the linnet, goldfinch, and greenfinch, which are secured to the slur by what is called a brace; which secures the bird without injuring the plumage. It is a sort of bandage, formed of a slender silken string, fastened round the body, and under the wings, so as to hinder the bird from being hurt, let it flutter ever so much. As it has been found that there is a superiority in birds that are in song, the bird-catchers contrive that their call-birds should moult before the

usual time. They therefore, in June or July, put them into a box made quite close, under two or three folds of blankets, and leave their dung in the cage to raise a greater heat; in which state they continue, being perhaps examined but once a week to have fresh water. As for food, the air is so putrid, that they eat little during the whole state of confinement, which lasts about a month. The birds frequently die under the operation; and hence the value of a stopped bird, as the bird-catchers style it, rises greatly. When the bird has thus prematurely moulted, he is in song whilst the wild birds are out of song, and his note is louder and more piercing than that of a wild one; but it is not only in his note he receives an alteration, the plumage is equally improved. The black and yellow in the wings of the goldfinch, for example, become deeper and more vivid, and acquire a beautiful gloss, which is not to be seen in the wild bird. The bill, which in the latter is black at the end, in the stopped bird becomes white and more taper, as does its legs: in short there is as much difference between a wild and a stopped bird, as there is between a horse kept in body clothes and one at grass. When the bird-catcher has laid his nets, he disposes his call-birds at proper intervals. There is a most malicious joy in these call-birds, to bring the wild ones into the same captivity; which may likewise be observed with regard to decoy ducks. (See DECOY.) Their sight and hearing infinitely excels that of the bird-catcher. The moment they see a hawk, they communicate the alarm to each other by a plaintive note; nor will they then jerk or call though the wild birds are near. But at any other time, the instant that the wild birds are perceived, notice is given by one of the rest of the call-birds, as by the first hound that hits on the scent to the rest of the pack; after which, follows the same sort of tumultuous joy. The call-birds, while the bird is at a distance, do not sing as a bird does in a chamber, they invite the wild ones by what the bird-catchers call short jerks, which, when the birds are good, may be heard at a great distance. The ascendancy by this call is so great, that the wildest bird is stopped in its flight; and, if not a sharper, as the bird-catchers style a bird acquainted with the nets, lights boldly within twenty yards perhaps of three or four bird-catchers, on a spot which otherwise it would not have taken the least notice of. Nay, it frequently happens, that if only half a flock are caught, the remainder will immediately afterwards light in the nets, and share the same fate; and should only one bird escape, that bird will suffer itself to be pulled at till it is caught; such a fascinating power have these call-birds. Here it is worth mentioning, that the bird-catchers frequently lay considerable wagers whose call-bird can jerk the longest, as that determines the superiority. They place them opposite to each other, by an inch of candle; and the bird who jerks the oftenest before the candle is burnt out, wins the wager. There have been instances of a bird giving 170 jerks in a quarter of an hour; and of a linnet, in such a trial, persevering in its emulation till it swooned from the perch. Birds, when near each other, and in sight, seldom jerk or sing. They either

fight, or use short and wheedling calls; the jerking of these call-birds, therefore, face to face, is a most extraordinary instance of contention for superiority in song.

Various methods are used to catch different kinds of birds. The bullfinch, though not properly a singing bird, or a bird of flight, as it does not often move farther than from hedge to hedge, yet, as it sells well on account of its learning to whistle tunes, and sometimes flies over where the nets are laid, the bird-catchers have often a call-bird to ensnare it, though most of them can imitate the call with their mouths. It is remarkable that the female bullfinch answers the purpose of a call-bird as well as the male, which is not experienced in any other species of birds taken by the London bird-catchers. The nightingale is not a bird of flight, in the sense in which bird-catchers use this term. Like the robin, wren, and many other singing birds, it only moves from hedge to hedge, and does not take the periodical flights in October and March. Those who catch these birds make use of small trap-nets, without call-birds; and are considered as inferior in dignity to other bird-catchers, who will not rank with them. The arrival of the nightingale is expected by the trappers in the neighbourhood of London, the first week in April: at the beginning, none but cocks are taken; but in a few days the hens make their appearance, generally by themselves, though sometimes with a few males. The latter are distinguished from the females not only by their superior size, but by a great swelling of their vent, which commences on the first arrival of the hens. They are caught in a net trap, the bottom of which is surrounded with an iron ring; the net itself is rather larger than a cabbage-net. When the trappers hear or see them, they strew some fresh mould under the place, and bait the trap with a meal-worm. Ten or a dozen have been thus caught in a day. The common way of taking larks (see *ALAUDE*) is in the night, with nets called trammels. These are usually made of thirty-six yards in length, and about six yards over, with six ribs of packthread, which at the ends are put upon two poles about sixteen feet long, and made lesser at each end. These are to be drawn over the ground by two men, and every five or six steps the net is made to touch the ground, otherwise it will pass over the birds without touching them. When they are felt to fly up against the net, it is clapped down, and then all are safe that are under it. The darkest nights are best for this sport; and the net will not only take larks, but all other birds that roost on the ground. In the depth of winter people sometimes take great numbers of larks by nooses of horse-hair. The method is this: Take 100 or 300 yards of packthread; fasten at every six inches a noose made of double horse-hair; at every twenty yards the line is to be pegged down to the ground, and so left ready to take them. The time to use this is when the ground is covered with snow, and the larks are to be allured to it by some white oats scattered all the way among the nooses. They must be taken away as soon as three or four are hung, otherwise the rest will be frightened; but though the others are scared away just where the sports-

man comes, they will be feeding at the other end of the line, and the sport may be thus continued for a long time. Those caught in the day are taken in clap-nets of fifteen yards long, and two and a half broad; and are enticed within their reach by bits of looking glass, fixed in a piece of wood, and placed in the middle of the nets, which are put in a quick whirling motion by the string the larker commands; he also makes use of a decoy-lark. These nets are used only till the fourteenth of November; for the larks will not dare to frolic in the air, except in fine sunny weather; and of course cannot be inveigled into the snare. When the weather grows gloomy, the larker changes his engine, and makes use of a trammel-net, twenty-seven or twenty-eight feet long, and five broad; which is put on two poles eighteen feet long, and carried by men under each arm, who pass over the fields and quarter the ground as a setting dog: when they hear or feel a lark hit the net, they drop it down, and so the birds are taken. Linnæus observes that the male chaffinches fly by themselves, and in the flight precede the females; but this is not peculiar to them. When the tit-larks are caught in the beginning of the season, it frequently happens, that forty are taken and not one female among them; and probably the same would be observed as to other birds (as has been done with relation to the wheat-ear), if they were attended to. Experienced bird-catchers tell us, that such birds as breed twice a year generally have in their first brood a majority of males, and in their second of females, which may in part account for the above observation.

The following method of catching wild pigeons is eagerly pursued as a diversion in different parts of Italy, particularly by the inhabitants of Cava in the Hither Principato, and is thus described by Mr. Swinburne. The people 'assemble in parties; and if any stranger chancies to stray to their rendezvous, they give him a most cordial welcome. I am not in the least surprised (says Mr. Swinburne) at their passionate fondness for this sport, as I found it extremely bewitching, keeping the attention constantly alive, and the springs of the mind pleasingly agitated by expectation; the situations where the toils are spread are incomparably beautiful, the air is pure and balsamic, and every thing around breathes health and satisfaction. When the periodical flights of stock-doves return from the northern and western parts of Europe to gain warmer regions for their winter abode, the fowler repairs to the mountain and spreads his nets across the intermediate hollows, the passes through which the birds direct their course, to avoid unnecessary elevation in their flight. These nets are hung upon a row of large trees planted for the purpose. The branches being very thick and close at top, and the bole lofty and bare, a great opening is left below for the toils, which reach to the ground; and by means of pulleys, fall in a heap with the least effort. Sometimes they are extended upon poles that exceed the height of the trees. At a small distance is a lofty circular turret, like a column with a little capital or cap, upon which a man is stationed to watch the approach of the game. As he com-

mands a free view over all the country, and practice has made his sight as acute as that of the lynx, he describes the birds at a wonderful distance. The doves advance with great velocity; but the alert watchman is prepared for them; and just as they approach his post, hurls a stone above them with a sling: upon this the whole flock, whose fears have birds of prey for their great object, supposing the stone to be an enemy of that kind ready to pounce on them, dart down like lightning to avoid the blow by passing under the trees; but there they rush into the jaws of death, by dashing against the net, which instantly drops and so entangles them that not one of them can escape the active hands of the fowler. These birds are sometimes taken by dozens at one fall, and are accounted fine eating. The dexterity with which the slingers manage their weapon is very remarkable; they throw the stone to a great height without any violent effort, and even without whirling the sling round before they discharge the pellet. In the Pyrenean mountains where the same diversion is followed, the watchmen use a bow and arrow, trimmed with the feathers of a hawk.

The following simple but ingenious method of catching aquatic birds is used in Mexico by the natives. The lakes of the Mexican vale, as well as others in the kingdom, are frequented by a prodigious multitude of ducks, geese, and other water-birds. The Mexicans leave some empty gourds to float upon the water, where those birds resort, that they may be accustomed to see and approach them without fear. The bird catcher goes into the water so deep as to hide his body, and covers his head with a gourd: the ducks come to peck at it; and then he pulls them by the feet under water.

Great numbers of the inhabitants of the Orkneys feed, during the season, on the eggs of the birds of the cliffs. The method of taking them is so very hazardous, as to prove the extremity to which the poor people are driven for want of food. Shapinsha, Sanda, Hoy, Foula, and Noss Head are the most celebrated rocks; and the neighbouring natives the most expert climbers and adventurers after the game of the precipice. The height of some are about fifty fathoms; their fronts roughened with shelves or ledges sufficient only for the birds to lay their eggs upon. To these the dauntless fowlers ascend, pass intrepidly from one to the other, collect the eggs and birds, and descend with the same indifference. In most places the attempt is made from above: they are lowered from the slope contiguous to the brink by a rope, sometimes made of straw, sometimes of the bristles of the hog: they prefer the last even to ropes of hemp, as it is not liable to be cut by the sharpness of the rocks; the former is apt to untwist. They trust themselves to a single assistant, who lets his companion down, and holds the rope, depending on his strength alone; which often fails, and the adventurer is sure to be dashed to pieces or drowned in the sea. The rope is often shifted from place to place, with the depending weight of the fowler and his booty. The person above receives signals for the purpose, his associate being out of sight; who, during the operation,

by help of a staff, springs from the face of the rocks, to avoid injury from the projecting parts. But the most singular species of bird-catching is on the holm of Noss, a vast rock severed from the Isle of Noss by some convulsion, and only about sixteen fathoms distant. It is of the same stupendous height as the opposite precipice, with a raging sea between; so that the intervening chasm is of matchless horror. Some adventurous climber reaches the rock in a boat, gains the height, and fastens several stakes on the small portion of earth which is to be found on the top; correspondent stakes are placed on the edge of the correspondent cliffs. A rope is fixed to the stakes on both sides, along which a machine, called a cradle, is contrived to slide; and by the help of a small parallel cord, fastened in like manner, the adventurer wafts himself over, and returns with his booty.

In some remote parts of Russia there is practised a singular invention for taking great quantities of gelinottes or grouse. They choose the most open places in the birch woods; and there plant long forks in the earth opposite the larger trees, on these are laid a horizontal stick, gallows-ways, to which are tied small bundles of ears of corn. At a small distance from this contrivance, is a kind of large funnel or inverted cone, made with long birch twigs, thin and flexible, the lower extremities stuck in the earth, very near to one another; but by spreading towards the top, it forms an opening of above a yard in diameter. In this opening is placed a wheel made of two circles that intersect each other, and are surrounded with straw and ears of corn. This wheel turns on an axis fastened to the sides of the funnel, so that there is room enough between the sticks of the cone and the circles to admit of the wheel's turning freely about. The birds first perch upon the transverse sticks near the tree; and when they have a mind to fall upon the cord tied to the wheel, they must necessarily stand upon one of the projecting parts of the circles of which it is composed. At that instant the wheel turns, and the gelinotte falls head foremost to the bottom of the trap, which is there so contracted that he cannot get out. They sometimes find the machine half full of gelinottes.

The manner of bird catching in the Ferro islands is exceedingly hazardous. The cliffs which contain the objects of their search are often 200 fathoms in height, and are attempted both from above and below. In the first case, the fowlers provide themselves with a rope 80 or 100 fathoms in length. The fowler fastens one end about his waist and between his legs, recommends himself to the protection of the Almighty, and is lowered down by six others, who place a piece of timber on the margin of the rock, to preserve the rope from wearing against the sharp edge. They have besides, a small line fastened to the body of the adventurer, by which he gives signals that they may lower or raise him, or shift him from place to place. The last operation is attended with great danger, by the loosening of the stones, which often fall on his head, and would infallibly destroy him, were it not protected by a strong thick cap; but even that is

found unequal to save him against the weight of the larger fragments of rock. The dexterity of the fowlers is amazing; they will place their feet against the front of the precipice, and dart themselves some fathoms from it, with a cool eye survey the places where the birds nestle, and again shoot into their haunts. In some places the birds lodge in deep recesses. The fowler will alight, disengage himself from the rope, fix it to a stone, and at his leisure collect his booty, fasten it to his girdle, and resume his seat. At times he will again spring from the rock, and with a fowling net placed at the end of a staff, catch the old birds that are flying to and from their retreats. When he has finished his dreadful employ, he gives a signal to his friends, who pull him up, and share his hard earned profit. The feathers are preserved for exportation: the flesh is partly eaten fresh, but the greater part is dried for winter's provision. The fowling from below has also its share of danger. The party goes on the expedition in a boat; and when it has attained the base of the precipice, one of the most daring, having fastened a rope about his waist, and furnished himself with a long pole with an iron hook at one end, either climbs or is thrust up by his companions, who place a pole under his breech, to the next footing spot he can reach. He, by means of a rope, brings up one of the boat's crew; the rest are drawn up in the same manner, and each is furnished with his rope and fowling staff. They then continue their progress upwards in the same manner, till they arrive at the region of the birds; and wander about the face of the cliff in search of them. They then act in pairs; one fastens himself to the end of his associate's rope, and, in places where birds have nestled beneath his footing, he permits himself to be lowered down, depending for his security on the strength of his companion, who has to haul him up again; but it sometimes happens that the person above is overpowered by the weight, and both perish. They fling the fowls into the boat, which attends their motions. They often pass seven or eight days in this tremendous employ, and lodge in the crannies which they find in the face of the precipice.

BIRDLIME is prepared in different ways. The best birdlime is made of the middle bark of the holly boiled seven or eight hours in water, till it is soft and tender: then laid in heaps in pits in the ground and covered with stones, the water being previously drained from it; and in this state left for two or three weeks to ferment, till it is reduced to a kind of mucilage. This being taken from the pit is pounded in a mortar to a paste, washed in river water, and kneaded, till it is freed from extraneous matters. In this state it is left four or five days in earthen vessels, to ferment and purify itself, when it is fit for use. It reddens tincture of litmus. Exposed to a gentle heat it liquefies slightly, swells in bubbles, becomes grumous, emits a smell resembling that of animal oils, grows brown, but recovers its properties on cooling, if not heated too much. With a greater heat it burns, giving out a brisk flame and much smoke. The residuum contains sulphate and muriate of potash, carbonate of lime and alumina, with a small portion of iron.

The misletoe affords a juice superior to that of the holly; and if a young shoot of the common alder be cut through, a stringy juice will draw out in threads, and follow the knife like birdlime or the juice of the holly.

When birdlime is to be put in wet places the common birdlime is apt to have its force soon taken away. It is necessary, therefore, to have recourse to a particular sort, which, from its property of bearing water unhurt, is called water birdlime; and is prepared thus:—Take a pound of strong birdlime; wash it in spring water till the hardness is all removed; then beat it well that the water may be separated, so as not a drop remains; then dry it well and put it into an earthen pot; add to it as much grease as will make it run, with two spoonfuls of strong vinegar, one spoonful of oil, and a small quantity of Venice turpentine. Let the whole boil for some minutes over a moderate fire, stirring it all the time. Then take it off; and, where there is occasion to use it, warm it, and cover the sticks well with it. This is the best sort of birdlime for snipes, and other birds that frequent wet places. The most successful method of using birdlime is this:—Cut down the branch of any bushy tree whose twigs are thick, straight, and smooth; the willow and the birch tree afford the best of this kind. Let all the superfluous shoots be trimmed off, and the twigs all made neat and clean; they must all be well covered with the birdlime within four inches of the bottom. No part of the bark, where the lime should come, must be left bare; but it is a nice matter to lay it on properly; for if it be too thick it will give the birds a distaste, and they will not come near it; and if there be too little of it, it will not hold them when they are there. When the bush is thus prepared, it must be set up in some dead hedge, or among bushes, near the outskirts of a town, or the like, if in the spring; for these places are the resort of the small birds at that time. If it be used in summer, the bush must be placed in the midst of a quick-set hedge, or in white-thorn trees, near fields of corn; and, in the winter, the proper places are about stacks of corn, hovels, barns, and the like. When the lime-bush is thus planted, the sportsman must stand as near it as he can, without being discovered; and with the mouth, or otherwise, make such notes as the birds do when they attack or call one to another. The time of day for this sport is from sunrise to ten o'clock, and from one to sunset. Another very good method of bringing the birds together is by a stale; a bat makes a very good stale, but it must be fastened so as to be in sight at a distance. An owl is a still better stale; for this bird never goes abroad but it is followed by all the small birds. They will gather together in great numbers about it; and, having no convenient place to sit on but the lime-bush, many will be taken. If a living owl or bat is not to be had, the skin stuffed will serve the purpose, and will last twenty years. Some have used the image of an owl carved in wood, and painted in the natural colors; and it has been found to succeed very well.

BIRDS-CHERRY, *n. s. padus Theophrasti*
A plant.

BIRDS'EYE, *n. s. ad n. s.* The name of a plant.

BIRDS'FOOT, *n. s. ornithopodium*. The name of a plant.

BIRDS'NEST, *n. s.* An herb.

BIRDS-NEST, PURPLE. See ORCHIS.

BIRDS-NESTS, in natural history and cookery, the nests of a small Indian swallow (See *Hirundo*), very delicately tasted, and frequently mixed among soups. On the sea coasts of China, at certain seasons of the year, there are seen vast numbers of these birds. They leave the inland country at their breeding time, and come to build in the rocks, and fashion their nests out of a matter which they find on the shore, washed thither by the waves. The nature of this substance is scarcely yet ascertained. According to Kempfer it is molluscæ or sea-worms; according to M. le Poivre, fish-spawn; according to Dalrymple, seaweeds; and according to Linnæus it is the animal substance, frequently found on the beach, which fishermen call blubbers or jellies. The nests are hemispherical, and of the size of a goose's egg, and in substance much resemble the ichthyocolla or isinglass. The Chinese gather these nests, and sell them to all parts of the world; they dissolve in broths. &c. and make a kind of jelly of a very exquisite flavor. These nests are found in great abundance in Sumatra, particularly about Croe, near the south end of the island. Four miles up the river of that name is a large cave, where the birds build in vast numbers. The nests are distinguished into white and black, of which the first is by far the more scarce and valuable, being found in the proportion of one only to twenty-five. 'The white sort,' says Mr. Marsden, 'sells in China at the rate of 1000 to 1500 Spanish dollars the pecul; the black is usually disposed of at Batavia for about twenty dollars the same weight, where it is chiefly converted into glue, of which it makes a very superior kind. The difference between the two has been supposed to be owing to the mixture of the feathers of the birds with the viscous substance of which the nests are formed: and this they deduce from the experiment of steeping the black nests for a short time in hot water, when they are said to become in a great degree white. Among the natives I have heard some assert, that they are the work of a different species of bird. It was suggested to me that the white might probably be the recent nests in which they were taken; and the black, such as had been used for a number of years successively. This opinion appearing plausible, I was particular in my enquiries as to that point, and learned what seemed much to corroborate it. When the natives prepare to take the nests, they enter the caves with torches, and forming ladders according to the usual mode, of a single bamboo notched, they ascend and pull down the nests, which adhere in numbers together, from the side and top of the rock. They informed me, that the more regularly the cave is stripped, the greater proportion of white nests they are sure to find, and that on this experience they often make a practice of beating down and destroying the old nests in larger quantities than they trouble themselves to carry away, in order that they may find white nests

the next season in their room. The birds, during their building time, are seen in large flocks on the beach, collecting in their bills the foam which is thrown up by the surf, of which there is little doubt but they construct their nests, after it has undergone, perhaps, a preparation from a commixture with the saliva, or other secretion, with which nature has provided them for that purpose.'

BIRDS-PEPPER. See CAPSICUM.

BIRD ISLAND, an island of the North Pacific Ocean, discovered in 1788 by the captain of the Prince of Wales, and afterwards visited by Vancouver in 1794. This solitary island or rock derives its name from the multitude of birds which crowd upon it. It has the form of a saddle, high at each end and low at the middle. Its greatest extent, which is in a direction south seventy-four degrees west, and north seventy-four east, does not exceed one mile; nor is it more than a league round. Its northern, eastern, and western extremities rise perpendicularly from the ocean in rugged cliffs, inaccessible but to its winged inhabitants. On its southern side the ascent is not so steep; and on the western shore is a small sandy beach, where, in fine weather and a smooth sea, a landing might be made. Here Vancouver saw some appearance of verdure, but neither tree nor shrub; every other part consisted only of naked rock. The Sandwich Islanders speak of it by the name of Modoo Manoo, that is, Bird Island; and it seems to claim some pretensions to be ranked in the group of the Sandwich Islands, being thirty-nine leagues north and fifty-one west of Onehow. Long. 198° 8' E., lat. 23° 6' N.

BIRD ISLAND, an islet in Strangford Lough, on the coast of Ireland, eight miles south of Newtown. 2. A small island in the Eastern seas, six miles north of Pulo Lucotta. 3. An island in the South Pacific Ocean, about four miles in circumference, which was discovered by captain Cook in 1769. 4. A small island in the Eastern Indian Sea, near the west coast of Sumatra. 5. An island in the South Pacific, near the north-west coast of New Georgia, discovered by captain Cook in 1775. 6. An island in the Indian Sea, about four miles in circumference, covered with green shrubs and rocky in the centre. 7. A small island off the coast of Africa. Lat. 24° 20' S. 8. A small island near the east coast of Newfoundland, six miles south-east of Cape Bonavista. 9. A small island in the gulf of St. Lawrence, sixty-three miles west of Cape Anguilla, on the island of Newfoundland. Long. 60° 45' W., lat. 47° 55' N. 10. A small island in the Carribean Sea. A long bank, called the Bank of Aves, extends from this island to St. Eustatius, about 130 miles to the N. N. E.

BIRD ISLANDS, small low islands near the north-east coast of New Holland, which, when seen by captain Cook, were almost covered with birds. 2. Sixteen miles west of Cape Grenville. 3. A cluster of islands in the Carribean Sea, near the coast of South America. 4. Two islands near the north coast of the island of Antigua, in the West Indies, distinguished by the names of Great and Little, though they are both small.

BIRDSTARES, *n. s. aracus*. A plant.

BIRDSTONGUE, *n. s.* An herb.

BIREMIS, from *bis*, double, and *remus*, an oar, in Roman antiquity, a vessel with two rows of oars, concerning the disposition of which authors are not agreed.

BIREN (Ernest John), duke of Courland, was descended from a humble family, his father being simply huntsman to a former duke of Courland. Ernest received his education at the university of Königsburgh in Prussia, and in 1714 visited Petersburg, to solicit the situation of a court-page, which he was refused on account of his mean descent. He then returned to Courland, and obtained the favor of Bestucheff, the chancellor, who introduced him to the duchess dowager and regent, Anne; who, charmed with his address, made him her chief favorite, and promoted him to almost the entire government of the country. When Anne ascended the throne of Russia, it was stipulated that Biren should not accompany her; but she soon sent for him, and during her whole reign he ruled in Russia, as at Courland, with sovereign sway, almost peopling the deserts of Siberia with exiles: 20,000 are said to have been despatched there during his administration of ten years. Mr. Coxe says he even treated his mistress with the most haughty violence; but on the other hand it is universally admitted, that Russia flourished under his influence, and that he was careful to employ men of ability in every department. On the death of Ferdinand duke of Courland, in 1737, Anne compelled the nobles to choose him for their sovereign; and he now boldly crushed every vestige of freedom in the states. He prevailed on the empress, on her death-bed, to nominate her nephew Ivan, then an infant, her successor, and himself regent during his minority; and at her death, endeavoured, with his usual decision, to secure his authority. But prince Munich, at the head of a strong party, succeeded in seizing his person in 1740, and conducting him to Siberia in his turn. Here he remained, with five roubles a day for his maintenance, during the whole reign of Elizabeth. On the accession of Peter III. the exiles were all recalled. Offers were then made to him to induce him to resign his duchy, but this he always refused to do. He was at length, in 1763, restored to all his honors by Catharine II.; and died at Mittau in 1772, in his eighty-third year.

BIRGANDER, *n. s.* *chenalopez*. A fowl of the goose kind.

BIRKENBERG, a small market town of Bohemia, in the circle of Beraun, near the town of Pribram, with a productive silver mine.

BIRKENFELD, a town and bailiwick of Germany, in the circle of the Upper Rhine, including thirty-two villages and two iron foundries. It was taken by the French in 1794; and became the principal place of a district of the same name, in the department of Sarre. The town recently contained 1061, and the canton 5892 persons. The district comprehends thirty-eight communes, and its whole territorial extent includes 1615 kilometres. It is situated thirty miles E. N. E. of Treves, and thirty N. N. W. of Deux-Ponts.

BIRKENFELD, the late capital of the county,

seated near the river Nahe. Long. 7° 14' E., lat. 49° 35' N.

BIRKENHEAD, or **BERKENHEAD** (Sir John), a famous political author, born about 1615. Being secretary to archbishop Laud, he created him M. A. in 1639; and in 1640, procured him to be chosen probationer fellow of All Souls College. This obliged him to reside constantly at Oxford; and on king Charles I's making that city his head-quarters during the civil war, he conducted a journal in defence of the royal cause, by which he gained great reputation. By the king's recommendation, he was chosen reader in moral philosophy; which he enjoyed till 1648, when he was expelled by the parliamentary visitors. He afterwards retired to London, and wrote several poetical pieces; for which he acquired the title of the loyal poet, and suffered several imprisonments. On the Restoration, he was created LL.D. by the university of Oxford; and in that quality, as an eminent civilian, was consulted by the convocation. Whether bishops ought to be present in capital cases? He was about the same time elected to serve in parliament for Wilton. He was knighted, November 14th, 1662; and, upon Sir Richard Fanshaw's vacating the office, was appointed to succeed him as master of requests. He afterwards received various royal favors, which drew upon him some very severe attacks from those who opposed the court. His memory has been transmitted with honor to posterity by Dryden, Langbaine, and Winstanley. He died in Westminster, December 4th, 1679.

BIRMAN, or **BURMBAN EMPIRE**. See **BURMBAN**.

BIRMINGHAM, a large market and manufacturing town of Warwickshire, on the river Rea, formerly called Birmisham, from the name of the lords of the manor. The principal part of the town stands on the side of a hill, nearly in the form of a half moon. The lower and older part is filled with the workshops and warehouses of the manufacturers. The upper part of the town contains a number of new and regular streets, and a handsome square. Birmingham has several good churches, particularly one in the lower part of the town, which is an ancient building with a very tall spire; and another, which is a grand modern structure, having a square stone tower with a cupola and turret above it. The Old Church has a peal of twelve bells, and a set of chimes. St. George's church, near Constitution Hill, one of the seventy lately voted by parliament, is a still more recent edifice, just finished. It is also in contemplation to erect another new church at Dale-end. Here are also five chapels of ease of the established religion, including a new chapel, lately built at Bordesley, in the suburbs, besides a great number of meeting-houses for dissenters of all denominations, and two synagogues for the Jews. Here are also a due variety of charitable endowments. The free school is a very ancient institution, but the present building, a large and handsome edifice, with a neat tower in the centre, and a statue of Edward VI. in front, was erected in 1707; the blue coat school was established in 1724, which receives 150 boys, and forty girls: into the dis-

scoters' charity school forty boys and twenty girls are admitted; the general hospital, erected in 1766, is supported by voluntary contributions and many large bequests, it possesses an income of about £1000 per annum, and, upon an average, accommodates upwards of seventy patients weekly. This town was never incorporated, and is governed by two constables and two bailiffs. It is about two miles long, including the hamlets of Deritend and Bordesley; and contains between 80,000 and 90,000 inhabitants (exclusive of those of the parish of Aston, in which Castle-Bromwich is included, making a further population of 14,366), of whom 19,344 families are returned as employed in trade and manufactures; particularly in the manufacture of fire-arms, hardware, plated articles, trinkets, and jewellery; which have an unrivalled sale. The art of staining glass has been carried to great perfection here by Mr. Eginton, whose works, in a style superior to any ancient remains preserved, now adorn many churches and other edifices throughout the kingdom. There are also very extensive brass foundries, and numerous articles, useful and ornamental, are executed of that material: there are also manufactories of whips, and papier-machée commodities. Here are two crosses, the one called the Welsh and the other the Old Cross; over the latter is held the court of requests, established in 1752, and occasionally some of the town meetings. Also an elegant new theatre. In the summer season the inhabitants have the amusement of a Vauxhall; and in the winter there are concerts and balls in a superb assembly-room, at the hotel.

Birmingham was for many centuries noted for its extensive leather-market, which is now gone to decay. The greatest advantage to this emporium of trade, is the extension, of late years, of its canal navigation, now communicating with most parts of the kingdom. The old canal, cut in 1768, brings the raw materials, and fuel from the Wednesbury collieries; this again, in 1772, was extended to Atherley, and thence communicates to the Severn by Shrewsbury, Gloucester, and Bristol, and joins the Trent to Gainsborough, Hull, and London. It has also a junction with the Grand-Line Canal, through Staffordshire, to Manchester and Liverpool, thereby conveying the produce of its manufactories entirely by water carriage to the principal sea-ports of the British Ocean, the Irish Sea, and St. George's Channel. By means of the New or Birmingham and Fazely canal, a communication is opened to Tamworth, Polesworth, Atherston, Nuneaton, Coventry, and Oxford; and thence by the canal, or Thames, to London. The place is every year improving rapidly. In most of the principal streets the foot-paths are paved with flag-stones, and the whole town is lighted with gas. In 1822, an act was passed for rebuilding the bridge over the Rea, at Deritend. There are a number of noblemen's and gentlemen's seats in the neighbourhood; together with the famous Soho works, belonging to Messrs. Boulton and Watt, forming one of the most extensive manufactories in the kingdom, as well for the number of hands it employs, as for the variety of articles it produces. It consists of four squares, with

connecting ranges of shops, like streets, capable of employing above 1000 workmen, in all the varieties of the button, buckle, plated, or argent-moulu, steel, and trinket manufactures. The improved steam-engines of Messrs. Boulton and Watt, also made here, deserve to rank among the most extraordinary inventions of the age. Lately there has been erected, at Lady-Well, the completest set of baths in the kingdom. The principal bath consists of an oblong piece of water, thirty-six yards by eighteen, situate in the centre of a garden, having twenty-four recesses for undressing, and being surrounded by a wall; besides seven marble baths, which are at all times ready for hot and cold bathing. Dr. Price notices this as the healthiest town in England; the soil around is a red sand, which preserves the place remarkably dry: and it is worthy of observation, that from the register of burials, in the average of six years, ending 1801, the scale of mortality was as one to fifty-nine only, whilst that of Manchester appears to have been one to thirty-seven, and the metropolis of London as one to thirty-one. The market, on Thursday, is well supplied with all kinds of provision and cattle; it has also two other markets, and large cattle fairs on the Thursday in Whitsun-week, and 29th September.

This town is supposed to have existed in the reign of king Alfred; but it was not a place of note for centuries after. In 1643 it was besieged and taken by prince Rupert, and ordered to be burnt to the ground; but, owing to some propitious circumstances, the conflagration did very little damage. In the year 1665, or 1666, Birmingham suffered severely from the plague; and in a short time subsequent to this it began to be considerably enlarged. In the year 1700, however, it consisted only of thirty streets. Before the Revolution, its other manufactures were confined to coarse iron wares; but the skill of its artists was brought into great notice and exertion by the following circumstance. William III. having expressed his regret, that it should be necessary to import fire-arms from foreign countries, Sir Richard Newdigate, member of parliament for Warwickshire, engaged, on the part of his constituents, to supply the demands of government; and an order, which was sent to Birmingham, having been speedily and satisfactorily executed, it has continued from that period to furnish the greatest proportion of muskets, swords, and other small arms. In 1745 Mr. Boulton's invention of inlaid steel for buckles, watch-chains, and other articles, was brought to perfection; and in 1764 the great works at Soho were established. Subsequent to these improvements, the town appears to have made the most rapid advances to wealth and prosperity: yet in 1795, it is said, there was but one cannon in the place. In the year 1791 serious riots took place in Birmingham, when two Unitarian places of worship, and the celebrated Dr. Priestley's house and valuable library, were destroyed by the populace, whose disorders were continued during several days; and it is calculated that property was destroyed to the value of £50,000. Distant sixty-two miles north-west of Oxford, eighty-seven north of Bristol, and 109 N. W. of London.

BIRNAGHUR, an ancient decayed city of Gujerat, in Hindostan, which formerly contained 300 temples, now in ruins. The inhabitants were principally Brahmins.

BIRNAM, a hill of Scotland in Perthshire, celebrated by Shakspeare in his tragedy of Macbeth. It rises, with a rude and striking magnificence, to the height of 1580 feet above the level of the sea, in the parish of Little Dunkeld. It looks full in the face, at the distance of about twelve miles, the celebrated Dunsinnan hill, the seat and fortress of Macbeth. Within the range of an arrow from this mount, are to be seen a number of tumuli or small heaps of stones, about the length of a human body. Higher up the same face of Birnam, are the ruins of an oblong square building, with circular turrets at the corners. It is called (in Gaelic) Forhajillon. Birnam was anciently a forest, and a part of the royal domain of Scotland.

BIROSTRIS, in conchology, a species of bulla, inhabiting Java. It has two beaks, which are elongated and smooth; margin thickened outwardly.—*Lister*.

BIROTA, or **BIROTUM**, in Roman antiquity, a kind of vehicle, so denominated from its moving upon two wheels. It carried about 200lbs. weight, and was drawn by three mules.

BIRIUS, or **BYRUS**, in Roman antiquity, 1. A cloak made of woollen cloth, worn by the soldiers. 2. A robe anciently worn by the priests or bishops.

BIRSHA, king of Gomorrah, one of the five kings who rebelled against Chedorlaomer. Gen. xiv.

BIRT', *n. s.* A fish, the same with the **TURBOT**; which see.

BIRTH ,	} The third person of the verb to <i>bear</i> . Ang-Sax. beorthe; Germ. <i>burt</i> , from the verb <i>beren</i> . Whatever beareth is a <i>birth</i> ; a convenient place to moor a ship in is called a <i>birth</i> ; also the proper place on board to put chests, &c. is called the <i>birth</i> of the mess; to bear, is however not only to sustain; but bear into life, into existence, used of vegetables as well as of animals. <i>Birth</i> is likewise the act of carrying into life. It is figuratively used for extraction, lineage, rank by descent. <i>Birthdoom</i> is used as kingdom, dukedom, privilege by <i>birth</i> . <i>Birthright</i> is the right of the first-born; the privileges to which a man is born.
BIRTHDAY ,	
BIRTHDOOM ,	
BIRTHMARK ,	
BIRTHNIGHT ,	
BIRTHPLACE ,	
BIRTHRIGHT ,	
BIRTHTIDE ,	
BIRTHSTRANGLER .	

Paraventure in thilke large book

Which that men clepe the Heven, ywritten was
With sterres, whan that he his *birthe* took,
That he for love should han his deth, alas!
For in the sterres, cleer than is glss,
Is writen, God wot, who so coude it rede,
The deth of every man withouten drede.

Chaucer. Canterbury Tales.

———— I was in thilke same looser yeeres
(Whether the Muse so wrought me from my *byrth*,
Or I too much beleevyd my shepherd peeres.)
Somedele y bent to song and musickes mirth.

Spenser's Shepherd's Calendar.

Most virtuous virgin, born of heavenly *birth*.

The people fear me; for they do observe
Unfathered heirs, and loathly *births* of nature.
Spenser.

This is my *birthday*; as this very day
Was Cassius born. *Id.*
My *birthplace* hate I, and my love's upon
This enemy's town. *Id.*

Thy blood and virtue
Contend for empire in thee, and thy goodness
Shares with thy *birthright*. *Id.*

Let us rather
Hold fast the mortal sword; and like good men,
Bestride our downfallen *birthdoom*. *Id.*
Finger of *birthstrangled* babe,
Ditch-delivered by a drab. *Id. Macbeth.*
That poets are far rarer *births* than kings,
Your noblest father proved. *Ben Jonson.*

———— that the true
Anointed king Messiah might be born
Barred of his right; yet at his *birth* a star,
Unseen before in heaven, proclaims him come,
And guides the eastern sages. *Milton.*

Orient light,
Exhaling first from darkness, they beheld,
Birthday of heaven and earth. *Id.*

Thou hast been found
By merit, more than *birthright*, Son of God. *Id.*
The' angelick song in Bethlehem field,
On thy *birthnight*, that sung the Saviour born.
Id. Paradise Regained.

In Spain, our springs like old mens' children be,
Decayed and withered from their infency;
No kindly showers fall on our barren earth,
To hatch the seasons in a timely *birth*. *Dryden.*

While no baseness in this breast I find,
I have not lost the *birthright* of my mind. *Id.*

Your country dames,
Whose cloaths returning *birthday* claims. *Prior.*
I loved her first, I cannot quit the claim,
But will preserve the *birthright* of my passion.
Otway.

To say that liberty and property are the *birthright*
of the English nation, but that, if a prince invades
them by illegal methods, we must upon no pretence
resist, is to confound governments. *Addison.*

In ships decayed no mariner confides,
Lured by the gilded stern and painted sides;
Yet at a ball unthinking fools delight
In the gay trappings of a *birthday* night. *Swift.*
See through this air, this ocean, and this earth,
All matter quick and bursting into *birth*. *Pope.*

Much I misdoubt this wayward boy
Will one day work me more annoy;
I never loved him from his *birth*.

Byron. Bride of Abydos.

BIRTH, in midwifery. See **MIDWIFERY**.

BIRTH, or **BERTH**, in sea language, the station in which a ship rides at anchor, either alone or in a fleet, comprehending the extent of the space in which she ranges at the extent of her cables. Thus, the seamen say, 'she lies in a good *birth*,' i. e. in a convenient situation, or at a proper distance from the shore and other vessels; and where there is good anchoring ground, and shelter from the violence of the wind and sea.

BIRTHDAY, the anniversary return of the day whereon a person was born. The ancients placed a good deal of religion in the celebration of the birthdays, and took omens from thence of the felicity of the coming year. The manner of celebrating birthdays was by a splendid dress;

wearing a sort of rings peculiar to that day; offering sacrifices; the men to their genius, of wine, frankincense; the women to Juno; giving suppers, and treating their friends and clients; who in return made them presents, wrote and sung their panegyrics, and offered vows and good wishes for the frequent happy returns of the same day. The birth-days of emperors were also celebrated with public sports, feasts, vows, and medals struck on the occasion. But the ancients, it is to be observed, had other sorts of birth-days besides the day on which they were born. The day of their adoption was also reputed as a birth-day, and celebrated accordingly. The emperor Adrian, we are told, observed three birth-days, viz. the day of his nativity, of his adoption, and of his inauguration. In those times it was held, that men were not born only on those days when they first came into the world, but on those also when they arrived at the chief honors and commands in the commonwealth, e.g. the consulate. Hence the expression of Cicero, in his oration ad Quirites, after his return from exile: 'A parentibus, id quod necesse erat, parvus sum procreatus; a vobis natus sum consularis.'

BIS AL NIL is frequently mentioned among the Arabian writers; and as al nil signifies only of the river Nile, the whole name should seem to express the character of some poisonous plant growing in the Nile.

BISA, or BIZA, a coin of Pegu, current there for half a ducat. It is also a weight used in that kingdom, equal in Venetian weight to 2 lb. 5 oz.

BISACUTA, in middle-age writers, an axe with two edges, or which cuts either way; or a missive weapon pointed at both ends. Walsingham represents the securis bisacuta as peculiar to the Scottish nation. See BATTLE-AXE.

BISALTA, a town in Egypt, anciently called Acanthos.

BISALTIDE, in entomology, a species of papilio, inhabiting Surinam. The wings are fulvous, black at the tips; with two ocellar dots on the anterior pair, and three on the posterior ones.

BIS-ANNUAL, a name given by botanists to those plants which ordinarily do not flower till the second year.

BISARCA, in botany, a name used by some authors for the herb tarragon.

BISBEA; from *βισβη*, a vine; a feast celebrated by the Messapii after the pruning of their vines, to obtain of the gods that they might grow again the better.

BISCARA, or PESCARA, a town of Africa, in Bidadulgerid, belonging to Algiers. It once belonged to the province of Zeb in Numidia, and still retains some remains of the ancient city. It is surrounded by a mud wall; and defended by a few cannon. In the hot season the town is often almost depopulated by the abundance of scorpions, to whom the inhabitants are obliged to leave it for a time. It has a small trade in slaves and dates. It stands in lat. 34° 40' N., and long. 5° 15' E. The natives are found in different employments at Algiers.

BISCAY, a province of Spain, bounded on the north by the sea called the Bay of Biscay, on the south by Old Castile, on the west by the Asturias, and on the east by France and Navarre. It com-

prises the three provinces of Alava, Guipuzcoa, and Biscay Proper, and is in general mountainous and barren; but in some places it produces corn, and everywhere a great quantity of apples, oranges, and citrons. The people make cider of the apples, which is their common drink. They have also wine called chacolino, which is pleasant, but will not keep long. Their valleys produce a little flax, and their hills a great deal of ship-timber. The sea affords them excellent fish of all sorts. Copper and marble are also found here; and a spring near the village of Aguana produces salt, great quantities of which are extracted by evaporation. This province likewise contains several mineral springs, hot and cold. One has been mentioned, which is thought to have a communication with the sea, though situated thirty-seven leagues from the shore. The water not only rises and falls with the tide, but, when the sea is much agitated, it often overflows. The wool that is exported here comes from Old Castile; but their greatest riches are derived from their mines of iron; which is extremely good, and transported to all parts. They are famous for the manufacture of swords and knives. Biscay is the country of the ancient Cantabri, so imperfectly subdued by Augustus, and slightly annexed to the Roman empire. Their mountains have in all ages afforded them opportunities of withdrawing themselves from every yoke that has been attempted to be imposed upon them, and fostered an hereditary bravery. The king of Spain, it is said, who is simply called Lord of Biscay, has no right to impose taxes here; but a demand is made in his name, and the supply granted in the shape of a donative, or free gift, the manner of raising it remaining with the states of the province. No custom-house was allowed within the province until lately; nor is any bishop to be found here. Biscay furnishes a specific contingent of men to the army and navy, which exempts it from the militia laws and impress. A great portion of the inhabitants assume the title of noblesse, or gentry. The population is small in proportion to the extent of its territory; for the whole does not contain more than 310,000 inhabitants. In this are included 4000 priests, 2043 monks and nuns; and 117,000 persons who claim the rank of noblesse. In the 720 parishes of which this province consists, there are 4 cities, 176 towns, and 446 villages. The chief towns are Bilbao, Orduna, Durango, Fontarabia, St. Sebastian, Tolosa, and Victoria.

The inhabitants of Biscay are a people quite distinct from the other Spaniards. Their language is accounted aboriginal, and unmixed with either Italian, French, or Spanish; it seems to be a dialect of the Celtic, and is described as very soft, harmonious, and energetic. The Biscayners are stout, brave, and choleric to a proverb. The best sailors in Spain belong to the ports of Biscay, and its mountains produce a very valuable race of soldiers. Even when out of their own province, it is said, they are amenable only to the grand Judge of Biscay, who holds his court at Valladolid; and this is a privilege of which they are very jealous. Guipuzcoa enjoys nearly the same privileges as Biscay Proper, except, that as the frontier of the kingdom, it

receives garrisons, and is defended by fortified towns. The women are beautiful, tall, light, and merry; their garb is neat and pastoral; their hair falls in long plaits down their backs; and a veil or handkerchief, twisted round in a coquetish manner, serves them for a very becoming head-dress. On Sundays they generally wear white, tied with rose-colored knots.

'The lordship of Biscay,' says a modern traveller, 'still presents, in many respects, a striking picture of the simplicity of ancient manners. The country is covered with detached houses, without any decoration, but commodious; each placed in the middle of the proprietor's manor, and near a river. Their proximity and connexion make them look like villages. Most of these houses, and their dependencies, are inhabited by persons whose families have possessed them from time immemorial. Their proprietors are called Eche-jaines, or lords of houses. Districts composed of a certain number of these houses are called republics; the parish church usually standing in the centre. Antique villas appear at certain distances among these modest habitations; they are all of simple architecture, and most of them flanked with square towers. These have likewise been transmitted from father to son for many ages. It would be a disgrace to sell them. Their possessors, under the title of *Parientes-magores*, are, as it were, the elders of the district. They were formerly regarded as chiefs and judges, and still preserve a marked distinction and preponderance.' Although many of the nobility are in reduced circumstances, and often cultivate their domains with their own hands, they retain a real respectability in the eyes of their neighbours; and there is an old proverb among them, *la pobreza no es vileza*, 'poverty is no blemish.' See *Townsend's Journey*, and *Laborde's View of Spain*.

BISCAY, BAY or, that part of the Atlantic Ocean which opens between the Island of Ushant, near the western promontory of France, and Cape Ortegal, the north-west point of Spain. It washes all the western coast of France, with the northern shores of the peninsula, and advances, between St. Sebastian and Bayonne, nearly to the western extremity of the Pyrenees. The entrance into this bay is known to mariners from a remarkable swell of the sea.

Also a large bay on the south coast of Newfoundland, between Cape Race, and Cape Pine, about the beginning of the fifty-fourth degree of west longitude.

BISCAY, NEW, one of the provinces into which the kingdom of Mexico, or New Spain, was formerly divided, and which now forms part of the intendency of Durango. It is bounded on the north by New Mexico, on the east by New Leon, on the south by Zacatecas, and on the west by Culiacan.

BISCHITZ, a market town of Bohemia, on the Elbe, in the circle of Buntzlau.

BISCHOFBURG, a town of East Prussia, in the circle of Heilsberg, with 1600 inhabitants. Here is a Catholic church, and most of the inhabitants are of that communion. Considerable quantities of yarn and linen are manufactured and exported. Fifty-four miles south of Königsberg.

BISCHOP (Abraham), son of Cornelius, was instructed by his father to design historical subjects and portraits; but preferred the painting of fowls, particularly those of the domestic kind, to any other subjects. He designed every object after nature, and usually painted in a large size, such as ornamental furniture for grand halls.

BISCOP (Corn.), portrait and history painter, was born at Antwerp in 1630, and was the disciple of Ferdinand Bol. His pencil, coloring, and manner resembled those of his master; and by judges, he is esteemed not inferior to him in historical subjects or portraits, having been always assiduous to study after nature. However, an impartial judge would perhaps think his compositions heavy, and without expression. He died in 1674.

BISCHOP, or **BISCOP** (John De), an excellent painter and engraver, born at the Hague in 1646. He is spoken of with great commendation, and his drawings are held in the highest estimation by the curious. But he is best known as an engraver; and his works are numerous. They are chiefly etchings, harmonised by the graver; and though slight, yet free, spirited, and pleasing. He gives a richness to the color and a roundness to the figures, far beyond what is usually done with the point, so little assisted by the graver. It is said that he owed his excellency to his genius alone, having never studied under a master. He worked chiefly at Amsterdam, where he died in 1786, aged forty.

BISCHROMA, in music, the same as our triple quaver. See **CHROMA**.

BISCHWEILER, a flourishing town of France, in Alsace, department of the Lower Rhine. It contains 3400 inhabitants, for the most part Calvinists, who manufacture cloth, madder, tobacco, and leather, and carry on a small trade on the Motter, the river on which it is situated. Four miles south-east of Hagenu, ten north of Strasburg.

BISCIA, in ichthyology, a name by which some have called the acus, or tobacco-pipe fish.

BISCOT, in law, a fine of two-pence on every perch of land, for not repairing banks.

BISCUIT, *n. s.* From Lat. *bis*, twice, and Fr. *cuit*, baked. A kind of hard dry bread, made to be carried to sea: it is baked for long voyages four times. Of more general application to compositions, whether sweet or otherwise, prepared by the pastrycook and confectioner.

The *biscuit* also in the ships, especially in the Spanish galleys, was grown hoary, and unwholesome.

Knolles's Hist.

Many have been cured of dropsies by abstinence from drinks, eating dry *biscuit*, which creates no thirst, and strong frictions four or five times a-day.

Arbutnot on Diet.

BISCUIT, SEA, is a sort of bread much dried, to make it keep for the service of the sea. It was formerly baked twice, or oftener, and prepared six months before the embarkation. It will keep good a whole year. The process of biscuit-baking for the British navy is as follows, and it is equally simple and ingenious: The meal, and every other article, being supplied with much certainty and simplicity, large lumps of

dough, consisting merely of flour and water, are mixed up together; and, as the quantity is so immense as to preclude by any common process a possibility of kneading it, a man manages, or, as it is termed, rides a machine, which is called a horse. This machine is a long roller, apparently about four or five inches in diameter, and about seven or eight feet in length. It has a play to a certain extension, by means of a staple in the wall, to which is inserted a kind of eye, making its action like the machine by which they cut chaff. The lump of dough being placed exactly in the centre of a raised platform, the man sits upon the end of the machine, and literally rides up and down throughout its whole circular direction, till the dough is equally indented; and this is repeated till it is sufficiently kneaded, at which times, by the different positions of the lines, large or small circles are described, according as they are near to, or distant from the wall.

The dough is now handed over to a second workman, who slices it with a prodigious knife; and it is then in a proper state for the use of those bakers who attend the oven. These are five in number; and their different departments are as well calculated for expedition and correctness as the making of pins, or other mechanical employments. On each side of a large table, where the dough is laid, stands a workman; at a small table near the oven stands another; a fourth stands by the side of the oven to receive the bread; and a fifth to supply the peel. By this arrangement the oven is as regularly filled, and the whole exercise performed in as exact time, as a military evolution. The man on the further side of the large table moulds the dough, having previously formed it into small pieces, till it has the appearance of muffins, although rather thinner, and which he does two together, with each hand; and as fast as he accomplishes this task, he delivers his work over to the man on the other side of the table, who stamps them with a docker on both sides with a mark. As he rides himself of this work, he throws the biscuits on the smaller table next the oven, where stands the third workman, whose business is merely to separate the pieces into two, and place them immediately under the hand of him who supplies the oven, whose work of throwing, or rather chucking the bread upon the peel, must be so exact, that if he looked round for a single moment, it is impossible he should perform it correctly. The fifth receives the biscuit on the peel, and arranges it in the oven; in which duty he is so very expert, that though the different pieces are thrown at the rate of seventy in a minute, the peel is always disengaged in time to receive them separately.—As the oven stands open during the whole time of filling it, the biscuits first thrown in would be first baked, were there not some counteraction to such an inconvenience. The remedy lies in the ingenuity of the man who forms the pieces of dough, and who, by imperceptible degrees, proportionably diminishes their size, till the loss of that time, which is taken up during the filling of the oven, has no more effect to the disadvantage of one of the biscuits than to another. So much critical exactness and neat activity occur in the exercise of this labor, that it is difficult to

decide whether the palm of excellence is due to the moulder, the marker, the splitter, the chucker, or the depositor; all of them, like the wheels of a machine, seeming to be actuated by the same principle. The business is to deposit in the oven seventy biscuits in a minute; and this is accomplished with the regularity of a clock; the clack of the peel, during its motion in the oven, operating like the pendulum. The biscuits thus baked are kept in repositories, which receive warmth from being placed in drying lofts over the ovens, till they are sufficiently dry to be packed into bags, without danger of getting mouldy; and when in such a state, they are then packed into bags of a hundred weight each, and removed into storehouses for immediate use.

The number of bakehouses belonging to the victualling-office at Plymouth are two, each of which contains four ovens, which are heated twenty times a day, and in the course of that time bake a sufficient quantity of bread for 16,000 men. The granaries are large, and well constructed; when the wheat is ground, the flour is conveyed into the upper stories of the bakehouses, whence it descends through a trunk in each, immediately into the hands of the workmen.

The bakehouse belonging to the victualling-office at Deptford consists of two divisions, and has twelve ovens, each of which bakes twenty shoots daily (Sundays excepted); the quantity of flour used for each shoot is two bushels, or 112lbs, which baked produce 102lbs of biscuit. Ten pounds are regularly allowed on each shoot for shrinkage, &c. The allowance of biscuit in the navy is one pound for each man per day, so that one of the ovens at Deptford furnishes bread daily for 2,040 men.

But it must be confessed, that sea-biscuit of the best preparation often carries in it a principle of destruction. Sometimes it is in the bran, which occasions insects, and hollow spaces in the interior part of the biscuit, giving it a disposition to mould; and sometimes it is a want of cleanliness which prevails in the bread-room of the vessel. M. Cardon, a biscuit-baker of Hesse, in conjunction with others of the business, has recently made experiments, the result of which is: that 100lbs. of flour give 126 of dough; which, divided into cakes of eight or nine ounces, when well baked, afford 90lbs. of biscuit. Instead of making use of old leaven, and of ten or twelve pounds weight to each quintal of flour, he recommends to use the leaven while fresh, in a quantity of fifty pounds, and to make the dough less firm, that it may be kneaded with more ease. He has shown biscuit made after this manner, to several masters of ships, who have found it excellent, and that it stands the test of floating on the surface of water, without falling to pieces.

BISCUTELLA, **BUCKLER-MUSTARD**, or **Bastard Mithridate mustard**: A genus of the tetradynamia order, and siliculose class of plants. The silicle is flat, compressed, rounded, above and below two-lobed, and the leaves of the calyx are gibbous at the base. There are ten species, chiefly natives of the Levant, and adjoining shores, except *B. Peruviana*, which, as its name imports, grows wild in Peru.

BISECT, *v.* *Bis*, *binus*, two, and *seco*, *sec-*
BISECTION. *§* *tum*, to cut. To divide into two
parts.

The rational horizon *bisecteth* the globe into two
equal parts. *Brown's Vulgar Errors.*

BISEGMENT, *n. s.* in geometry, a part di-
vided into two equal parts.

BISELLIARI, or **BISELLIARI**, in antiquity,
those who enjoyed the honor or privilege of
the Bisellium. The word occurs in an old in-
scription, *cn. plaetorio vivo augustali bisellia-*
rio. Gruter, Inscr. p. 1099. Scaliger in his
index to Gruter, mistook the biselliarii for
artificers who made these seats.

BISELLIUM, from *bis*, and *sella*, a chair,
in antiquity, a kind of seat or chair, larger and
richer than ordinary, big enough to hold two
persons, wherein to sit in courts, theatres, and
other public assemblies.

BISERRULA, a genus of the decandria order,
and diadelphia class of plants; natural order
thirty-second, papilionaceæ: the legumen is locu-
lar and flat; and the partition contrary; serrate
on the edges. Of this genus there is only one spe-
cies known; viz. *B. pelecinus*, an annual plant
with purple flowers, growing in Italy, Sicily,
Spain, and the south of France.

BISERTA, a lake of Africa, in Tunis. The
mullets in this lake are the best in Barbary.

BISERTA, a large gulf of Africa, and the *Sinus*
Hipponensis of the ancients. It is formed by
the Capes Blanco and Ziebeh; and has a beau-
tiful sandy inlet near four leagues wide, which
once admitted the largest vessels, but through
the negligence of the Turks can now admit only
those of the smallest size, and is in danger in a
short time of being totally choked up. Some
remains of the pier of Hippo are extant; by which
it appears to have run out into the sea so as to
break the north-east wind, and make this one of
the safest and most beautiful havens in these
parts.

BISERTA, a town of Africa, in the kingdom of
Tunis, seated on the gulf. It was formerly very
considerable, and is said to have contained 6000
houses. Biserta has about eight villages under
its government; a large plain called *Matter* or
Mater; and the territory of *Choros*, the *Clypea*
or *Corobis* of the ancients. This is a tract of great
extent, and would be very fertile were it not for
the frequent incursions of the Arabs.

BISËT (Charles Emanuel), a painter of con-
siderable eminence, born at Mechlin in 1633,
was remarkable for introducing a multitude of
figures into his designs, with an extraordinary
variety of drapery. His general subjects were
conversations, balls, concerts, and assemblies of
genteel persons. His pictures had a strong effect
at a distance, and even when nearly inspected,
showed a neatness of pencil, a spirited touch,
and a good expression.

BISËT, *n. s.* a stock dove, or young pigeon.

BISETÆ, from *bis*, and *seta*, bristle, in natu-
ral history, a genus of flies of the class of *se-*
ticaudæ, distinguished by their having two hairs
growing out of their tails. There are many spe-
cies, and they are usually divided by authors into
two principal kinds; such as have sharp ends,

and such as have blunt ones. There are several
species of the former found in our hedges.

BISHARYE, a tribe of Bedowin Arabs, in-
habiting part of the mountains on the west of the
Red Sea, between Abyssinia and Egypt. Mr.
Burckhardt passed through these regions in his
route from the country of the Berbers, to the
western shores of the Arabian Gulf. Here he
found two tribes of Arabs, the Ababde and the
Bisharye; the latter of whom he thus describes:
'The Bisharye, who rarely descend from their
mountains, are a very savage people, and their
character is worse even than that of the Ababde.
The only cattle are camels and sheep; and they
live entirely on flesh and milk, eating much of
the former raw: according to the relations of se-
veral Nubians, they are very fond of the hot blood
of slaughtered sheep; but their greatest luxury
is said to be the raw marrow of camels. A few
of these Arabs occasionally visit Dere or Assouan
with senna, sheep, or ostrich feathers; the ostrich
being common on their mountains, and their
senna is of the best kind. In exchange for these
commodities, they take linen shirts, and *dhourra*,
the grains of which they swallow raw, as a dainty,
and never maké it into bread. These traders
do not long remain on the banks of the Nile, as
the dread of the small pox drives them back to
their tents. The Bisharye are much addicted to
theft, and will even rob the house of the person
who receives them as guests. Their youth make
plundering excursions as far as Dongola, and
along the route to Sennaar, mounted upon cam-
els, of a breed superior to any other that exists
between the shores of the Mediterranean and
Abyssinia. Few of the Bisharye speak Arabic.
They fear none but the Ababde, who know their
pasturing places in the mountains, and often sur-
prise their encampments.' The females, he
states, are as handsome as those of Abyssinia;
but very licentious.

BISHIBESH, a town of Lower Egypt, on that
branch of the Nile reaching from the canal of
Trajan to the ancient Pelusiac, which joined lake
Menzaleh. It appears to be the ancient Bubaste,
a city celebrated for religious rites and Baccha-
nalian orgies. The remains here are stupendous;
enormous masses of granite, almost all mutilated,
lie in great heaps, many of them made into mill-
stones, some of which, completely cut, have been
left on the spot, probably from their enormous
size. Forty miles north-east of Cairo. Long.
31° 52' E., lat. 30° 33' N.

BISHOP, *v. & n.*

BISH'OPING.

BISH'OPHOOD,

BISH'OPLIKE,

BISH'OPLY,

BISH'OPRICK.

Επίσκοπος, from *ἐπι* and
σκοπεω, to look into. Lat.
episcopus, an overseer.
From the Latin the Saxons
formed *biscop*, which was
afterwards softened into
bishop, a high order of clergy in the church of
Rome and church of England. Ayliffe has well
defined a bishop, to be an overseer or superin-
tendent of religious matters in the Christian
church.

And to a *bishop*, and his constable, eke,
He took his wit to kepe; when he is gon
To Scotland ward, his fomen for to seke.

Chaucer. Canterbury Tales.

Scarce can a *bishoprick* forpass them by,
But that it must be gell in privitie. *Spenser.*
You shall find him well accompanied
With reverend fathers, and well learned *bishops.*
Shakspeare.

They are prophane, imperfect, oh! too bad,
Except confirmed and *bishoped* by thee. *Donne.*
It will be fit, that, by the king's supreme power in
causes ecclesiastical, they be subordinate under some
bishop, and *bishoprick* of this realm.

Bacon's Advice to Villiers.
Their zealous superstition thinks, or pretends, they
cannot do God a greater service, than to destroy the
primitive, apostolical, and anciently universal govern-
ment of the church by *bishops.* *King Charles.*

When *bishops* shall lay all religion by,
And strive by law to establish tyranny. *Marvell.*
In case a *bishop* should commit treason and felony,
and forfeit his estates, with his life, the lands of his
bishoprick remain still in the church. *South.*

A virtuous woman should reject marriage, as a good
man does a *bishoprick*; but I would advise neither to
persist in refusing. *Addison. Spectator.*

Bloody contests in the streets, and in the churches
too, showed what an object of ambition the *bishoprick*
of Rome was, even before the destruction of the western
empire. *Bolingbroke.*

To *Bish'op*, is to confirm.

Bish'op, *n. s.* A cant word for a mixture of
port wine, oranges, sugar and cloves.
Come buy my fine oranges, sauce for your veal,
And charming when squeezed in a pot of brown ale;
Well roasted with sugar and wine in a cup,
They'll make a fine *bishop* when gentlefolks sup. *Swift.*

BISHOPS.—In the dead languages, the word
now commonly translated bishop, was originally
used with a political meaning, as when Plutarch
says, Πάντα ὡς ἐπε καὶ παντὸν ἐπίσκοπος ἢ ἄνω
φεύσας, omnia ipsi administrabat et curabat Phi-
dias; or Cicero is called episcopus oræ et Cam-
paniæ.

On the introduction of Christianity, it came to
be used in an ecclesiastical sense; and may be
considered either in relation to one church or
assembly of Christians, or to a number of churches
united under one superintendent. The former
is the mode in which the Presbyterians and Eng-
lish dissenters generally consider the term to be
used in the New Testament: the latter, that in
which the Roman Catholics and the Established
Church regard it.

'From the time of Ignatius, A. D. 100,' say
the Episcopalians, 'the word bishop has been
universally used to denote the highest of the
three orders of clergy in the Christian church,
which are the bishops, ἐπίσκοποι, the presbyters
or elders, πρεσβύτεροι, and Deacons, διακονοί.
It is our belief that in the times of the Apostles,
the three orders existed in subordination to each
other, and that whilst Episcopacy has, on the
ground of being an apostolic institution, an equal
claim with the presbytery to our respect, it pos-
sesses, as being the order to which presbyters have
been always subject, a right of pre-eminence over
the other orders of the clergy.'

Presbyterians, on the other hand, regard all
the teachers of religion as essentially equal in
authority. They argue that no vestige of pre-
eminence one over the other appears amongst the
apostles, the evangelists, or the seventy disci-

ples; that the terms ἐπίσκοπος and πρεσβύτερος,
are used as synonymous, and convertible in al-
most every passage of the New Testament where
they occur; or, in other words, that the same
persons who are called ἐπίσκοποι, are likewise
called πρεσβύτεροι, the former expression being the
name of office, and the latter the epithet of respect.
In proof of this assertion, they adduce a well-
known passage in the twentieth chapter of the
Acts of the Apostles, where we are informed, that
Paul, having summoned the elders of the church
at Ephesus, τὰς πρεσβυτέρους τῆς ἐκκλησίας, the
presbyters of the church, addressed them, that
is the elders or presbyters, in the following
words: 'Take heed, therefore, to yourselves, and
to all the flock over which the Holy Ghost hath
made you (the presbyters) ἐπίσκοποις, bishops or
overseers.' 'Here,' says Dr. Campbell, 'there can
be no question, that the same persons are denomi-
nated presbyters and bishops.' 'Nor does this pas-
sage,' the presbyterians add, 'by any means stand
alone. There is a similar one in the epistle to
Titus, chapter i. ver. 5. compared with verses
6 and 7, and 1 Pet. v. 2.' 'The bishops or pres-
byters of the apostolical age,' they further con-
tend, 'were usually the pastors each of a single
congregation.' They say, *usually* the pastors, each
of a single congregation, because, as they affirm,
there are instances where two or more pastors
have been allotted to one Christian assembly;
though the converse of this proposition is not
true, that there are instances in the age referred
to, of two or more congregations subjected to the
authority of one bishop. In establishing the pro-
position enunciated above, it is asserted, that,
when Titus, acting in the capacity of an extraor-
dinary minister, was left at Crete, it was, for the
following purposes, among others, 'that he
should ordain presbyters or bishops in every city,'
Tit. i. 5. Now, from this statement, they say, it
is evident, at first sight, that these presbyters or
bishops could not be diocesans. Had it been
the intention of Paul to establish, by the agency
of Titus, a diocesan authority in Crete, we should
have found one individual put in possession of
that authority, with a college of priests for his
assistants. But this was not the case: Titus
was left to ordain presbyters or bishops in every
city, that is, to furnish the Christians of each city
with an ordinary pastor.

Some ancient catalogues contain an account of
eleven pastors in this island at the period im-
mediately following this; a fact, it is said, obviously
inconsistent with the episcopalian hypothesis.
They further quote the instructions of Acts xiv.
23, as of a similar kind, and Dodwell's admission.
'Est sane admodum peccaria omnis illa argu-
mentatio, qua colligitur disciplinæ ecclesiasticæ
in posterum recipiendæ. rationem omnem è
Scripturis Novi Fœderis esse hauriendam. Nul-
lus enim est qui id proficiatur aperte sacri Scrip-
toris locus.' Parenthesis, N. 14. Can that, there-
fore, the presbyterians ask, 'be an institution of
Christ, for which there is no authority in the sa-
cred writings, and which, according to the author
just quoted, was not in existence before the con-
clusion of the apostolical period.'

The identity of these orders is contended for
by Suicer. (Thesaurus Eccles. vol. i. p. 80.) in

voce, *ἐπισκοπος*): 'Bishops and presbyters were not the apostolic orders in the apostolic church,' he says 'but constituted one and the same degree or order, and therefore were by divine right equal in dignity and authority.' He adduces the testimonies of Theodoret upon Philipp. cap. i. where the apostle mentions the bishops and deacons. Theodoret, observes: 'Επισκόπους τοὺς πρεσβυτέρους καλεῖ ἀμφοτέρω γὰρ εἶχον κατ' ἐκείνον τὸν καιρὸν τὰ ὀνόματα' 'He calls the presbyters bishops, for they had at that time both the names.' Afterwards this quotation from Eucumenius, a writer of the ninth century:— 'Οὐκ ἐπειδὴ ἐν μιᾷ πόλει πολλοὶ ἦσαν ἐπίσκοποι ἀλλ' ἐπισκόπους τοὺς πρεσβυτέρους καλεῖ τότε γὰρ ἐτι ἐκονώνονον τοῖς ὀνόμασι, καὶ οἱ ἐπίσκοποι διάκονοι καὶ πρεσβύτεροι ἐκαλοῦντο, καὶ τὸ ἑμπαιν οἱ πρεσβύτεροι ἐπίσκοποι.' 'It is not because there were many bishops in one city, that he addresses the bishops and deacons, but he calls the presbyters, bishops; for at that time they still had the same names in common, and the bishops were called deacons and presbyters, and, vice versâ, the presbyters, bishops: and again, Theodoret, in 1 Tim. iii. 'Τοὺς αὐτοὺς ἐκάλουν ποτε πρεσβυτέρους καὶ ἐπισκοπους.' 'They once called the same persons presbyters and bishops.'

In reply to those statements some Episcopalians (as Bishop Taylor in his *Episcopacy Asserted*) contend that, of necessity there must be found in scripture a form of church government; that James the brother of our Lord is called an apostle (Gal. i. 29.) and yet he was not of the number of the twelve, but was bishop of Jerusalem and had precedence there, summing up the decision of the counsel, Acts xv. 19., *Διό ἐγὼ κρίνω* wherefore I judge. See also Acts xii. 17.; the majority however of the respectable advocates of Episcopacy now observe, that while we may collect from the application of the word *ἐπισκοπή* in Acts i. 20, to express the office held by the Apostles, taken in conjunction with the circumstance of St. Peter i. ii. 25. terming our Lord himself the shepherd and Bishop, *ἐπίσκοπος*, of our souls, that the office of a bishop was one of high rank and great responsibility, we must not look to the revealed word of God for proof of the establishment of a church government, but must examine carefully the history of the Church in the first three centuries; and enquire what was the actual state of the Christian world during that period. At the head of the fathers, whom they quote upon this subject, stands Ignatius. According to Chrysostom he was the frequent and familiar associate of the apostles, and received episcopal ordination from them by the imposition of hands. In an epistle to the Magnesians ascribed to this eminent person, he distinctly refers to three orders of functionaries existing in the same church: mentioning Damas as bishop of Magnesia, Bassus and Apollonius as presbyters, and Tatian as deacon. In his Epistle to the Philadelphians, a similar enumeration is given: 'Attend,' says he, 'to the bishop, to the presbytery, and to the deacons.' A passage from his epistle to the Trallians is yet more emphatic and conclusive: 'Be ye subject,' he says, 'to the bishop as to Jesus Christ, to the presbyters as to the apostles of Jesus Christ, and to the deacons

as ministers of the mysteries of Jesus Christ; and he adds, with an anxiety and earnestness not to be expected in so early a writer upon such a subject, these remarkable words, 'without these there is no elect church, or congregation of holy men.' To the same purpose the authority of Clement, bishop of Alexandria, who also lived in the second century, is adduced: He, too, speaks of the three orders of functionaries existing in the church and mentions several persons who had arrived at the episcopal dignity, through the intermediate gradations of presbyter and deacon. To the testimonies of Ignatius and Clement, the Episcopalians also add those of Tertullian, Cyprian, Origen and Jerome. In Eusebius it is added there exists catalogues of Bishops up to the times of the Apostles at Jerusalem, Antioch, Alexandria, Rome, Jerusalem, Laodicea, and Cæsarea; and that not one instance can be produced during that period, nor any instance at all until the time of the Reformation, of any Christian church, professing the pure faith, which was not governed by Bishops.—Such is an impartial statement of the arguments on both sides of this disputed question.

The Church of Rome is episcopal, and the church of England so far acknowledges the validity of the ordination of that church that a Romish priest is only required to abjure its peculiar errors, and he can officiate without reordination. The late Dean Kirwan of Ireland, we believe, was thus ordained in the Romish church.

The Greek Church is also episcopal, having metropolitans, archbishops and bishops, who are always chosen in Russia from among the archimandrites, or heads of the monasteries: the synod presenting two or three candidates to his imperial Majesty, who decides on one.

At the Reformation episcopacy was lost or discontinued in several countries, not so much from objections to that form of government as from the manner in which the existing prelacy had abused it. Thus the Lutherans in the conclusion of the Augustan confession express themselves as having no view to depriving the Bishops of their government, but only to ask them to let the gospel be purely preached. Let them give us a hierarchy said Calvin, in which the bishops may be so above the rest, as they refuse not to be under Christ, and depend upon him as their only head! In England and Sweden episcopacy was preserved: in Scotland it withered from the first; and the discipline finally established became a mixture of the Lutheran superintendency and the Calvinistic presbytery.

The Bishops of the Church of England are twenty-seven in number, including the two Archbishops. The province of Canterbury includes twenty two dioceses; viz. Canterbury, London, Winchester, Bangor, Bath and Wells, Bristol, Chichester, Ely, Exeter, Gloucester, Hereford, Litchfield and Coventry, Lincoln, Llandaff, Norwich, Oxford, Peterborough, Rochester, Salisbury, St. Asaph, St. David's, Worcester. The province of York includes five, viz. York, Durham, Chester, Carlisle, Sodor and Man. The spiritual functions which are the peculiar distinctions of the order, are those of ordination and confirmation. They also have a power of gover-

ning the clergy of their respective dioceses, and of admonishing, and suspending ecclesiastical persons from the performance of the services of the church. They institute to benefices upon the presentation of the patrons, but, if the presentation belong to the Bishop, the act of institution is then termed collation. They license persons to serve as curates, either to assist the resident ministers of parishes, or to supply their absence. They have power to call the clergy to reside on their benefices under severe penalties for non-compliance; and to licence them to be absent from their cures, under special circumstances either of privilege or of personal necessity. By the common law, the bishop is to certify the judges, touching legitimate and illegitimate births and marriages; and by that and the ecclesiastical law, he is to take care of the probates of wills and granting administrations. A bishop's power is confined to his own diocese. He is assisted in his duty by his archdeacons, who are termed by the Canon law the 'Bishops' Eyes.' The bishop, by his archdeacons, visits his diocese every year, and generally in person every three years, at which time confirmations are held; during the Bishop's personal visitations the power of his archdeacon is suspended.

By virtue of their bishoprics the prelates of England are lords of parliament, and form part of one of the three estates of parliament, under the name of the lords spiritual. They sit in the upper house, as holding, or being supposed to hold, baronies of the king; for William the Conqueror changed the spiritual tenure of frank almain or free alms, under which the bishops held their lands during the Saxon government, into the feudal or Norman tenure by barony, which subjected their estates to all civil charges and assessment from which they were before exempt; and in right of succession to those baronies, which were unalienable from their respective dignities, the bishops and abbots were allowed their seats in the House of Lords. Bishops take rank next to viscounts. A difference however exists in the privileges of the bishops, as respects their being tried by their peers upon indictment for treason, or felony, or misprison of either; and sitting upon such trials in the court of the lord high steward: from this privilege they are excluded on the ground of not being noble in blood. Custom has also practically excluded them from sitting on trials for capital offences, upon impeachments, or indictments in full parliament. They have usually withdrawn voluntarily in such cases, but have entered a protest expressing their right to stay.

The archbishop of Canterbury is styled *Metropolitanus et Primus totius Angliæ*. The archbishop of York, *Primus et Metropolitanus Angliæ*. They are called Metropolitan, because they were at first consecrated in the metropolis of their province. The archbishop of Canterbury hath precedence before all the nobility of the realm, immediately after the blood royal, he hath the privilege of crowning the king of England, and hath prelates for his officers. The bishop of London is his provincial dean, the bishop of Winchester his chancellor, the bishop of Lincoln his vice-chancellor, the bishop of Salisbury his

precentor, the bishop of Worcester his chaplain. He hath the power of dispensation in any case not contrary to the law of God, and on this right is founded his power of granting special licenses to marry at any time or place, to hold two livings and the like, and also his power of conferring any degrees in prejudice of the universities. The archbishop of York is next in precedence; he hath precedence before all dukes not of the blood royal, and before all the great officers of state except the lord chancellor. He hath the privilege to crown the queen consort, and to be her perpetual chaplain. The bishop of Durham is next, the bishop of Winchester next, the remainder according to their seniority of consecration. But if any be a privy councillor he ranks after the bishop of Durham.

A suffragan is a titular bishop advanced to assist the bishop of any diocese in his spiritual function, or one who supplies the place of the bishop, so that by his suffrage, matters committed to him are determined. They are regulated by an act of Henry VIII (26 Hen. VIII. c. 14). By this act, every bishop at his pleasure may present two honest and discreet spiritual persons within his diocese to the king, that he may give one of them the title, style, and dignity of any of the following sees: Thetford, Ipswich, Colchester, Dover, Guildford, Southampton, Taunton, Shaftsbury, Molton, Marlborough, Bradford, Leicester, Gloucester, Shrewsbury, Bristol, Penrith, Bridgewater, Nottingham, Grantham, Hull, Huntingdon, Cambridge, Penrith, Berwick, St. Germain, and the Isle of Wight.

In Ireland there are four archbishops: Armagh, primate of all Ireland; Dublin, primate of Ireland; Cashel, primate of Munster; Tuam, primate of Connaught. And eighteen bishops: Meath, Kildare, Derry, Raphoe, Limerick, Ardfer, and Aghadoo, Dromore, Elphin, Down and Connor, Waterford and Lismore, Leighlin and Ferns, Cloyne, Cork and Ross, Killaloe and Kilkennor, Kilmore, Clogher, Ossory, Killala and Acheryll, Clonfert and Kilmacduagh. By an act 18 Car. I. c. 10, a bishopric in Ireland is declared incompatible with any ecclesiastical dignity or benefice in England or Wales. The church of England has also bishops of Quebec, Nova Scotia, and Calcutta; and latterly have been consecrated a bishop of Barbadoes, and of Jamaica.

The right of electing bishops is vested, if not by law, at least by the practice of the church, in the king. Immediately after the demise of any prelate, notice of that circumstance is given to the crown by the dean and chapter of his cathedral; who, at the same time, request permission to supply, by their choice, the vacancy which has taken place. His majesty then issues what is called a *congè d'elire*, accompanied by a missive, or recommendation of some individual to the benefice. This recommendation has the full effect of a command; for the dean and chapter have not the privilege of rejection. Should they decline electing, and persist in declining for the space of twelve days, they incur the severe penalties of a *præmunire*, under which term are implied, outlawry, or exclusion from the king's protection: a forfeiture to the crown

of lands and tenements, goods and chattels; and imprisonment during his majesty's pleasure. After the interval of twelve days just alluded to, the king presents, by his letters patent, to the vacant see. The election, or presentation, is next intimated to the archbishop of the province, who is required to proceed without delay in confirming the bishop elect. Should he decline, he likewise incurs a *præmunire*. The mandate, requiring confirmation, bears the authority of the great seal. As soon as it is received by the archbishop, it is transmitted to an officer called his vicar-general. The ceremony of confirmation then takes place. Those who have any objections to the new bishop, are solemnly invited to appear and substantiate them, and are denounced as contumacious, if they refuse to do so. The oaths of allegiance and supremacy, together with that of canonical obedience, and that against simony are next administered. A minute of the proceedings is then read by the vicar-general, after which the bishop is installed or constituted the ecclesiastical superior of his diocese, being fully invested with episcopal authority; though, according to some lawyers, he cannot lay claim to the temporalities of his benefice, unless he shall have been consecrated by the archbishop. The ceremony of consecration differs in some respects from that of confirmation. It must be performed, as we have just intimated, by the archbishop; or in particular cases by three bishops, lawfully commissioned for that purpose. The essential parts of this ceremony, according to Burnet, (art. xxxix. p. 564), are prayer and the imposition of hands; but to these are added investiture with the episcopal robes, together with the use of a certain form of words adapted to the occasion. The age at which persons are qualified to be made bishops in the English church is thirty.

BISHOPS, TITULAR, OR BISHOPS IN PARTIBUS INFIDELIUM, in ecclesiastical history, those with the title of a bishopric, whose diocese was in the possession of infidels or heretics. The denomination took its rise from the expulsion of the bishops and clergy out of the Holy Land by the Saracens; when flying into Italy for shelter, coadjutories were given for their subsistence.

BISHOPS, VAGUE, those without any diocese, sometimes attendant on camps, or in foreign countries, for the conversion of infidels. They were sometimes also granted by popes to monasteries, exempt from the jurisdiction of the diocesan, where they perform all the episcopal functions.

BISHOP-ABBOT, *episcopus abbas*, was an abbot invested with the episcopal order; of which we meet with several in the richer and more considerable monasteries.

BISHOP AND HIS CLERKS, in geography, some little islands and rocks on the coast of Pembroke-shire, near St. David's in Wales, which are very dangerous to mariners. Sheep are pastured on three; the others afford a retreat to sea fowl, which are caught for the sake of their down. A light-house was erected in 1777. Distant four miles west of St. David's. Long. 5° 20' W., lat. 51° 54' N.

BISHOP'S COURT, an ecclesiastical court, held in the cathedral of each diocese, the judge whereof is the bishop's chancellor, who judges by the civil and canon law; and if the diocese be large, he has his commissaries in remote parts, who hold what they call consistory courts, for matters limited to them by their commission.

BISHOP'S CASTLE, a market town and parish of England, in the county of Salop, on the river Clun. The town-house is a neat edifice, and it is an ancient corporation, which has sent members to parliament ever since the reign of queen Elizabeth. Population 1367. Distant eight miles from Montgomery, sixteen S.S.W. of Shrewsbury, and 152 north-west of London.

BISHOPS STORTFORD, a market-town of Hertfordshire, on the borders of Essex, thirteen miles south-east from Ware, and thirty north from London; containing 3358 inhabitants. It has a canal made navigable to the river Lea, with an extensive range of warehouses for storing corn and malt, which articles constitute its principal business. Between Hockeril and Stortford, on an artificial hill, a castle was built in the time of William the Conqueror, called Castle Hill, the remains of which were entirely pulled down in 1649, and an inn built with the materials. King John granted the town a charter of incorporation, and in the reign of Edward I. it was summoned to send members to parliament, a privilege it does not now enjoy. The four principal streets face the cardinal points, and it is kept very clean by the river Stort, which runs through it. The church is a venerable gothic structure, containing many ancient monuments. The free-school is a handsome edifice, of a square form, in the centre of the High-street. Here are several well-endowed alms-houses for aged persons, and a good market on Thursday.

BISHOPS WEARMOUTH, a parish of the county of Durham, standing on the river Wear. It was once a place of considerable note, and its church, the mother church to Sunderland. On the north side of the river lies Monks Wearmouth, so called from an extensive monastery, which was twice destroyed by the Danes and Scots. In the neighbourhood are several manufactories, and the trade and intercourse have been lately much benefited by the erection of a cast-iron bridge over the river, planned under the direction of Rowland Burdon, Esq. M. P. for Durham. It is 100 feet high, and 236 long, having only one arch. Population 7000. Distant 12½ miles from Durham, and 272 from London.

BISI (*Bonaventura*), a celebrated miniature painter, was born at Bologna, and a disciple of Lucio Massari. Instead of working from his own invention, he imitated in small size, the pictures of Guido, Corregio, Titian, and other great masters, and these he finished with astonishing grace, neatness, and beauty. He died in 1661.

BISIGNANO, a town of Naples, in the Hither Calabria. It has a strong fort, a bishop's see, and the title of a principality. It is seated on a mountain near the river Boccona.

BISILIQUEOUS, in botany, having the seed contained in two pods, proceeding from one flower.

BISK', *n. s.* Fr. *bisque*, soup; broth made by boiling several sorts of flesh.

A prince, who in a forest rides astray,
And, weary, to some cottage finds the way,
Talks of no pyramids, or fowls, or *bisks* of fish,
But hungry saps his cream served up in earthen dish.
King.

BISK, or **BISQUE**, in cookery, a rich sort of broth or soup, made of pigeons, chickens, force-meat, mutton gravy, and other ingredients. The word is French, formed from the Latin *biscocita*; because the *bisque*, consisting of a diversity of ingredients, needs several repeated coctions to bring it to perfection. There is also a *deni-bisque*, made at low expense, in which only half the ingredients are used; and a *bisque* of fish, made of carps, minced with their roes and lobsters.

BISLINGUA, double-tongued, a name used by many authors for the narrow-leaved *ruscus*, or butcher's broom, called by many others, the Alexandrian bay, or *laurus Alexandriæ*.

BISMAR, a Danish denomination for a small weight used in the Orkneys, for weighing small quantities of butter, from a merk to a lispund or twenty-four merks.

BISMILLAH, a solemn form used by the Mahommedans at the beginning of all their books and other writings, signifying, In the name of the most merciful God. It is also used among the Arabs as a word of invitation to eat.

BISMUTH, a genus of metals. Its generic characters are reddish-white, soft, brittle, specific gravity 9.822, easily melting, and soluble in acids. The species are, *B. nativum*, seu *wismutum nativum*; *B. ochraceum*, seu *wismutum pulverulentum*, flowers of bismuth, or bismuth ochre; *B. sulphuratum*, seu *wismutum sulphure*, sulphurated bismuth, or sulphuret of bismuth; *B. martiale*, seu *wismutum lamellis cuneatis*, martial sulphurised bismuth. Bismuth is somewhat harder than lead, and is scarcely, if at all malleable. The internal face, or place of fracture, exhibits large shining plates, disposed in a variety of positions; thin pieces are considerably sonorous. It melts at a temperature of 480° Fahrenheit, and its surface becomes covered with a greenish-gray or brown oxide. A stronger heat ignites it, and causes it to burn with a small blue flame; at the same time that a yellowish oxide, known by the name of flowers of bismuth, is driven up. This oxide appears to rise in consequence of the combustion; for it is very fixed, and runs into a greenish glass when exposed to heat alone. This oxide consists of 100 metal + 11.275 oxygen, whence its prime equivalent will be 9.87, and that of the metal itself 8.87. In a strong heat, and a closed vessel, it sublimes entire, and crystallises very distinctly when gradually cooled. The sulphuric acid has a slight action upon bismuth, when it is concentrated and boiling. Sulphureous acid gas is exhaled, and part of the bismuth is converted into a white oxide. A small portion combines with the sulphuric acid, and affords a deliquescent salt in the form of small needles. Nitric acid dissolves bismuth with the greatest rapidity and violence; at the same time that much heat is extricated, and a large quantity of nitric oxide

escapes. The solution, when saturated, affords crystals as it cools; the salt detonates weakly, and leaves a yellow oxide behind, which effloresces in the air. Upon dissolving this salt in water, it renders that fluid of a milky white, and lets fall an oxide of the same color. The nitric solution of bismuth exhibits the same property when diluted with water, most of the metal falling down in the form of a white oxide, called magistery of bismuth. This precipitation of the nitric solution, by the addition of water, is the criterion by which bismuth is distinguished from most other metals. The magistery or oxide is a very white and subtle powder; when prepared by the addition of a large quantity of water, it is used as a paint for the complexion, and is thought gradually to impair the skin. The liberal use of any paint for the skin seems indeed likely to do this; but there is reason to suspect, from the resemblance between the general properties of lead and bismuth, that the oxide of this metal may be attended with effects similar to those which the oxides of lead are known to produce. If a small portion of muriatic acid be mixed with the nitric, and the precipitated oxide be washed with but a small quantity of cold water, it will appear in minute scales of a pearly lustre, constituting the pearl powder of perfumers. These paints are liable to be turned black by sulphuretted hydrogen gas. The muriatic acid does not readily act upon bismuth. Alkalies precipitate its oxide: but not of so beautiful a white color as that afforded by the affusion of pure water. The gallic acid precipitates bismuth of a greenish-yellow, as feroprussiate of potash does of a yellowish color. There appear to be two sulphurets, the first a compound of 100 bismuth to 22.34 sulphur; the second of 100 to 46.5; the second is a bisulphuret.

This metal unites with most metallic substances, and renders them in general more fusible. When calcined with the imperfect metals, its glass dissolves them, and produces the same effect as lead in cupellation; in which process it is even said to be preferable to lead.

Bismuth is used in the composition of pewter, in the fabrication of printer's types, and in various other metallic mixtures. With an equal weight of lead, it forms a brilliant white alloy, much harder than lead, and more malleable than bismuth, though not ductile; and, if the proportion of lead be increased, it is rendered still more malleable. Eight parts of bismuth, five of lead, and three of tin, constitute the fusible metal, sometimes called Newton's, from its discoverer, which melts at the heat of boiling water, and may be fused over a candle in a piece of stiff paper, without burning the paper. One part of bismuth, with five of lead, and three of tin, forms plumber's solder. It forms the basis of a sympathetic ink. The oxide of bismuth precipitated by potash from nitric acid, has been recommended in spasmodic disorders of the stomach, and given in doses of four grains, four times a-day. A writer in the *Jena Journal* says he has known the dose carried gradually to one scruple without injury.

Bismuth is easily separable, in the dry way, from its ores, on account of its great fusibility.

It is usual, in the processes at large, to throw the bismuth ore into a fire of wood, beneath which a hole is made in the ground to receive the metal, and defend it from oxidation. The same process may be imitated in the small way, in the examination of the ores of this metal; nothing more being necessary than to expose it to a moderate heat in a crucible, with a quantity of reducing flux; taking care, at the same time, to perform the operation as speedily as possible, that the bismuth may be neither oxidised nor volatilised. See SALT.

Its affinities for the metals and acids are nearly in the following order:—

Bismuth.	Oxide of Bismuth.
Lead,	Oxalic acid,
Silver,	Arsenic,
Gold,	Tartaric,
Mercury,	Phosphoric,
Antimony,	Sulphuric,
Tin,	Muriatic,
Copper,	Nitric,
Platinum,	Fluoric,
Nickel,	Sacclactic,
Iron,	Succinic,
Sulphur.	Citric,
	Lactic,
	Acetic,
	Prussic,
	Carbonic.

BISNEE, a district of Hindostan, between Bengal and Assam, the rajah of which is tributary to both of these states. It is situated on the north side of the Brahmapootra river, between 26° and 27° of northern latitude. Bisnee, the capital, is the residence of the rajah, who is very poor.

BISOMUM, or DISOMUM, in Roman antiquity, a tomb for two dead bodies, or the ashes of two. The ancients frequently buried two, three, or four bodies in the same sepulchre, disposed beside each other; for it was held an impiety to lay one on the top of another. Hence the sepulchres of the primitive Christians had the words bisomi, trisomi, quadrisomi, &c. inscribed on them, to indicate the number of bodies deposited in them.

BISON, in zoology, the trivial name of a species of bos. See Bos.

Bison, in entomology, a species of scarabæus; thorax, the anterior part, pointed; and two lunated horns on the head. Found in Spain, and the southern parts of France. Color black.

BISPINOSA, in entomology, a species of mantis, thorax roundish, bidentated in front; wing-cases very short, and bordered with yellow. Also a large species of cicada, inhabiting the island of Sumatra. Color brown, with a single spine on each side of the thorax; wings dusky, with a streak of black spots.

BISPINOSUS, a species of cerambyx stenocorus, inhabiting South America. Thorax unarmed, and slightly tuberculated; wing-cases bidentated; joints of the antennæ armed with spines; body testaceous.—Also a species of carabus, found in Europe. Color black; posterior part of the thorax truncated; anterior shanks two spined.—Also a species of tabanus, a native of

Sweden. Color brown; abdomen ferruginous, and black at the base, with two spines on the scutel.

BISSACRAMENTALES, a denomination given by Romish writers to protestants, on account of their only holding two sacraments.

BISSAGOS, a group of islets which lie off the western coast of Africa, between the Gambia and Sierra Leone, near the mouth of the Rio Grande. The principal isles amount to the number of sixteen. Bissao, Bulama, Jate, Bussi, and Manterre, are alluvial islands, separated from the continent only by inconsiderable streams. Galpinas, Arcas, Formosa, Canabac, Carache, Corbelle, Genthera, Cavallo, Mel, Casegu, and Cove, are in the open sea. Besides these there are a great number of smaller islands, of which the most remarkable are Bourbon, Sarcicere, Poelon, Papaygo, and Los Parcos. Towards the ocean these islands are covered by a succession of banks of sand and mud, which render the approach to them very dangerous. The banks extend more or less from the 9th to the 12th parallel, and as far east as the meridian of Ferro. The inhabitants are called Bissagos, or Bijugas. They are a tall, robust, and intrepid race, fond of war. Such is their pride, that they will even commit suicide, on receiving an affront which they cannot avenge. They are said at the same time to be very ingenious, and ready of comprehension. The Biafaras, a much milder race, who inhabited the islands nearest to the continent, have been driven out by them, and now inhabit the banks of the Rio Grande. An attempt was made in 1792 to plant a colony upon Bulama, one of these islands, which however failed. See BULAMA.

BISSAO, one of the largest of the archipelago of the Bissagos, is forty miles long by thirty wide. It rises towards the middle in a hollowed plain, and is extremely fertile, producing abundantly millet, rice, lemons, limes, bananas, with oxen and cows of a remarkable size. The inhabitants are called Papels, and are enterprising and warlike; many Portuguese have also long been settled here. This island has a fine road, with a muddy bottom, and excellent anchorage at a place called the Great Port. Long. 14° 10' W., lat. 11° 24' N.

BISSART (Peter), professor of canon law in the university of Bologna, was descended from the earls of Fife in Scotland, and born in that country in the reign of James V. He was educated at St. Andrew's: from thence he removed to Paris; and, having spent some time in that university, proceeded to Bologna, where he commenced LL. D. and was afterwards appointed professor of canon law. He continued in that employment several years with great reputation, and died in 1568. He is said to have been not only a learned civilian, but an excellent poet, orator, and philosopher. Patricii Bissarti opera omnia, viz. poemata, orationes, lectiones feriales, &c. Lib. de irregularitate, &c. were published at Venice in 1563, 4to.

BISSELAËON, in the materia medica, a name used in many works of the most ancient Greek and Roman writers, to express the oil of pitch, or the fluid substance which swims at the surface

or melted pitch, and was used in many external disorders.

BISSET (Robert), a native of Scotland, was educated at Edinburgh for the clerical profession. He took the degree of LL.D., and becoming a schoolmaster at Chelsea, employed himself largely in writing for the press. His chief productions are—*A History of the Reign of George III.* 6 vols. 8vo.; the *Life of Edmund Burke*, 2 vols. 8vo.; and an edition of the *Spectator*, with lives of the authors, 6 vols. He died in 1805, aged forty-six.

BISSEXTIALIS, or **BISSEXTIALIS OLLA**, an ancient measure or vessel, containing twelve ounces, or two sextaries.

BISSEXTILE, *n. s.* Lat. from *bis*, and *sextilis*, leap year; the year in which the day, arising from six odd hours in each year, is intercalated.

The year of the sun consisteth of three hundred and sixty-five days and six hours, wanting eleven minutes; which six hours omitted, will, in time, deprave the compute: and this was the occasion of *bissextile*, or leap year. *Brown.*

Towards the latter end of February is the *bissextile*, or intercalary day; called *bissextile*, because the sixth of the calends of March is twice repeated.

Holder on Time.

BIS'SON, *adj.* Derived by Skinner from *by*, and *sin*, blind.

But who, oh! who hath seen the mobled queen
Run barefoot up and down, threatening the flames
With *bisson* rheum? *Shakespeare. Hamlet.*

BISTI, in commerce, a small coin of Persia. Some say that is among the current silver coins of Persia, and worth only a little above three farthings of our money; others speak of it as a money of account; perhaps it is used for both.

BISTONIS, in ancient geography, a lake of Thrace near Abdera, on which dwelt the Bistones: hence 1. *B. turbo*, a wind blowing from Thrace; and 2. *B. tyrannus*, an epithet used by Lucan, for Diomedes king of Thrace, who fed his horses with human flesh.

BISTORT, or knotgrass, in botany, the trivial name of a species of polygonum. See **POLYGONUM**.

BISTOURY, a surgeon's instrument used in making incisions, of which there are three sorts; the blade of the first turns like that of a lancet: but the straight bistoury has the blade fixed in the handle; the crooked bistoury is shaped like that of a half moon having the edge on the inside.

BISTRE, the burnt oil extracted from the soot of wood. It is of a brown transparent color, having much the same effect in water-painting, where alone it is used, as brown pink in oil. Though this color is extremely serviceable in water-colors, and much valued by those who know and can procure it: yet it is not in general use, perhaps on account of its not being easily procured of a perfect kind; hardly any of it being good, except that imported from France. Bistre may, however, be prepared with great ease in the following manner: take any quantity of soot of dry wood, but let it be of beech, if possible. Put it into water in the proportion of

two pounds to a gallon, and boil them half an hour: then after the fluid has stood some little time to settle, but while yet hot, pour off the clearer part from the earthy sediment at the bottom; and if on standing longer it forms another earthy sediment, repeat the same method, but this should be done only while the fluid remains hot; evaporate then the fluid to dryness; and what remains will be good bistre, if the soot was of a proper kind. The goodness of the bistre may be perceived by its warm deep brown color, and transparency when moistened with water.

BISTRIATA, in entomology, a species of cicada deflexa, inhabiting France. Color yellow, with two transverse bands of brown.

BISTRIGALIS, a species of phalæna. Color black; cinereous wings, with two ferruginous streaks, and a black dot. Inhabiting Europe.

BISTRIGARIA, a species of phalæna geometra, with cinereous wings, undulated with two linear streaks. Found only in Europe.

BISTRIGATA, another European species of phalæna geometra; griseous, with two whitish streaks.

BISTRITZA, a market town of Hungary, in the district of Besztercze, and county of Trentschin, on the Waag, with a castle and a Catholic church. Six miles north-east of Bolesko.

BISULCATUS, a species of curculio, inhabiting Italy. Color black, with a cinereous border, and two furrows on the beak.

BISULCUS, a species of ichneumon. Color black, with two impressed lines before; legs rufous; sting short.

BITCH *n. s.* Sax. *bitge*; the female of the canine kind, as the wolf, the dog, the fox, the otter; opprobriously applied to a woman who is a virago.

And at his feet a bitch wolf suck did yield

To two young babes.

Spenser.

I have been credibly informed, that a *bitch* will nurse, play with, and be fond of young foxes, as much as, and in place of, her puppies.

Locke.

Him you call a dog, and her a *bitch*.

Pope.

John had not run a madding so long, had it not been for an extravagant bitch of a wife.

Arbutnot.

BITCHE, a town and lordship of Lorraine, at the foot of one of the Vosges mountains, near the Schwolbe. It is built in the form of a half moon, and contains 2715 inhabitants. Since the revolution it has been the chief place of a canton in the department of the Moselle. On a hill overlooking the town is the strong citadel, which was taken by Louis XIV. in 1670, but given back at the peace of Ryswick. When the lordship came into the possession of France, this castle was repaired and strengthened. Bitche was one of the barrier fortresses delivered over by the allies in 1815, for a limited time, to the supervision of Lord Wellington. Sixteen miles E. S. E. of Sarguemines, and eighteen miles of Weissenbourg. Long. 7° 30' E., lat. 49° 4' N.

BITE *v. & n.*

BITER,

BITING,

BITINGLY,

BIT *v. & n.*

BITLESS.

Ang.-Sax. *bitan*, literally to make an incision, or to mangle with the teeth; metaphorically, whatever wounds the mind; hurts or gives pain, like a bite, whether by strata-

gem or force ; whatever would take us in or prey upon us ; whatever is sharp or acrid ; piercing or penetrating. A bit is a small portion of any thing ; like what is taken from a larger substance by a bite of the mouth. It is also applied to the instrument attached to the bridle of a horse, and which crosses his mouth, and remains there till the bridle is removed ; he champs the bit, but he cannot masticate it ; it sometimes signifies all the iron appendances of a bridle ; a biter is not only one that takes in another, but that is himself taken in ; a sharper bites, that is, he deceives you, and gives you pain by his duplicity and dishonesty ; but he also is a biter, who, like a fish, eagerly swallows the bait by which he is hooked and caught.

Right as a serpent hideth under floures
Til he may see his time for to bite. *Chaucer.*

With that, at him, a quivering dart he threw,
With so fell force and villainous despite,
That through his habercion the forke head flew,
And through the linked mayles emperced quite,
But had no power in his soft flesh to bite. *Spenser.*
Others the utmost boughs of trees doe crop,
And brouze the woodbine twiggis that freshly bud ;
This with full bit doth catch the utmost top
Of some soft willow. *Id.*

Sir Guyon, as by fortune then befell,
Forth from the thickest preasse of people came ;
His owne good steed, which he had stolen, to clame ;
And the' one hand seizing on his golden bit,
With the' other drew his sword. *Id.*

We have strict statutes, and most biting laws,
The needful bits and curbs of headstrong steeds. *Shakespeare.*

My very enemy's dog,
Though he had bit me, should have stood that night
Against my fire. *Id.*

These are the youths that thunder at a playhouse,
and fight for bitten apples. *Id.*

No empty hopes, no courtly fears, him fright ;
Nor begging wants his middle fortune bite,
But sweet content exiles both misery and spite.

Fletcher. Purple Island.

I have known a very good fisher angle diligently
four or six hours for a river carp, and not have a bite. *Walton.*

There are few that know all the tricks of these
lawyers ; for aught I can see, your case is not a bit
clearer than it was seven years ago. *Arbutnot.*

John was the darling ; he had all the good bits, was
crammed with good pullet, chicken, and capon. *Id.*

If on Parnassus top you sit,

You rarely bite, are always bit. *Swift.*

Let a man be ne'er so wise,

He may be caught with sober lies ;

For, take it in its proper light,

'Tis just what coxcombs call a bite. *Id.*

Great barkers are no biters. *Camden.*

A biter is one who tells you a thing you have no
reason to disbelieve in itself, and perhaps has given
you, before he bit you, no reason to disbelieve it for
his saying it ; and, if you give him credit, laughs in
your face, and triumphs that he has deceived you.
He is one who thinks you a fool, because you do not
think him a knave. *Spectator.*

If you had allowed half the fine gentlemen to have
conversed with you, they would have been strangely
bit, while they thought only to fall in love with a fair
lady. *Pope.*

He bought at thousands, what with better wit
You purchase as you want, and bit by bit. *Id.*

The evil consequences which sometimes arise from
the want of that timely intimation of danger which
pain gives, is known to the inhabitants of cold coun-
tries by the example of frost-bitten limbs.

Paley's Theology.

Who thundering comes on blackest steed ?

With slackened bit and hoof of speed.

Byron. Giaour.

Bits, in the menage. See HORSES, and MENAGE.

BITTS, or BITTS, in ship-building, the name of
two great timbers, usually placed abaft the man-
ger, in the ship's loof, through which the cross-
piece goes : the use of it is to belay the cable
thereof, while the ship is at anchor.

BITHYNIA, an ancient kingdom of Asia,
formerly known by the names of Mysia, Myg-
donia, Bebrycia, Mariandynia, and Bithynia.
It was bounded on the west by the Bosphorus
Thracius, and part of the Propontis, on the south
by the river Rhyndacus and Mount Olympus, on
the north by the Euxine Sea, and on the east by
the river Parthenius. The chief cities were
Myrlææ, Nicomedia, Chalcedon, Heraclea, and
Prusa. As to its history, we find nothing of
moment recorded, except the infamous conduct
of Prusias, one of its kings, in delivering up to
the Romans Hannibal, the great Carthaginian
general, who fled to him for protection. His
great grandson, Nicomedes IV., bequeathed the
kingdom to the Romans. From them it was
taken by the Turks, to whom it still remains
subject, and retains its ancient name.

BITHYNIARCHA, the superintendent of the
sacred games in ancient Bithynia.

BITHYNIARCHIA, a sort of superior priest-
hood in ancient Bithynia, to which belonged the
superintendency of the sacred games, and which
gave an exemption to the Bithyniarcha from the
care of tutorage.

BITIS, in zoology, a species of coluber, found
in Brasil. Above, yellow, varied, with white
and red, and transverse brown bands ; beneath,
yellow, with a middle row of very minute
scales.

BIT NOBEN, salt of bitumen. A white
saline substance lately imported from India,
which is not a natural production, but a Hindoo
preparation of great antiquity. It is called in
the country, bit noben, pandanoon, and soucher-
loon, and popularly khala mimuc, or black salt.
This salt is more extensively used in Hindostan,
than any other medicine whatever. The Hindoos
use it to improve the appetite and digestion ;
they also consider it as a specific for obstructions
of the liver and spleen ; and it is in high estima-
tion in paralytic disorders, cutaneous affections,
and indeed all chronic disorders of man and
beast.

BITONTO, an episcopal town of Naples, in
the Terra di Bari, seated in a plain eight miles
south of the gulf of Venice ; and 118 miles east
of Naples. It is celebrated for the victory ob-
tained by the Spaniards in its neighbourhood
over the Imperialists, 25th May 1734, and which
resulted in the entire subjugation of Naples to
Don Carlos of Spain. Philip V. caused a pillar
to be erected on the field of battle, and gave the
title of duke of Bitonto to the count of Monte-

mar, the Spanish general. It contains about 13,000 inhabitants.

BITTACUS, in natural history, a name given by Ctesias, and other Greek authors, to the parrot.

BITTER, *adj.* & *n.* } Of the same derivation as bite; but applied particularly to the taste; that which is pungent, penetrating and unpalatable; distasteful; nauseous; hence it is figuratively employed to express anguish of heart; excessive grief; calamity and woe; as likewise hatred; malice; implacability; severity of temper; piquancy; satire and keenness of reproach.

For, God it wote, he sate full oft and songe,
When that his sho ful *bitterly* him wronge,
Ther was no wight, save God and he that wiste
In many a wise how sore that I him twiste.

Chaucer. Canterbury Tales.

Thereto the blatant beast, by them set on,
At him began aloud to bark and bay
With *bitter* rage and fell contention,
That all the woods and rockes nigh to that way
Began to quake and tremble with dismay. *Spenser.*

And there beside him sate upon the ground
His wofull ladie, piteously complayning
With loud lamentes, that most unluckly stound,
And her sad selfe with carefull hand constraining
To wype his wounds, and ease their *bitter* payning. *Id.*

Friends now fast sworn,
Unseparable, shall within this hour,
On a dissension of a doit, break out
To *bitterest* enmity. *Shakspeare.*

Noble friends and fellows, whom to leave
Is only *bitter* to me, only dying. *Id.*

I so lively acted with my tears,
That my poor mistress, moved therewithal,
Wept *bitterly*. *Id.*

Indeed, my younger boy presumed too much
Upon his manhood, gave him *bitter* words,
Drew his sword first; and so, I know not how,
For I was out of my wits, he fell with's head
Just in my bosom. *Webster.*
Bitter and earnest writing must not hastily be con-
demned. *Bacon.*

And shun the *bitter* consequence: for know,
The day thou eatest thereof, my sole command
Transgress, inevitably thou shalt die. *Milton.*

Bitter constraint, and sad occasion dear,
Compels me to disturb your season due. *Id.*

Tell him, that if I bear my *bitter* fate,
'Tis to behold his vengeance for my son. *Dryden.*

Bitter is an equivocal word; there is *bitter* worm-wood, there are *bitter* words, there are *bitter* enemies, and a *bitter* cold morning. *Watts' Logic.*

The word of God, instead of a *bitter*, teaches us a charitable zeal. *Spratt.*

Pierpont and Crew appeared now to have contracted more *bitterness* and sourness than formerly, and were more reserved towards the king's commissioners. *Clarendon.*

What energy the hand
Of virtue mingles in the *bitter* tide,
Of passion swelling with distress and pain,
To mitigate the sharp with gracious drops
Of cordial pleasure. *Akenside.*

Love shews all changes—hate, ambition, guile,
Betray no further than the *bitter* smile. *Byron. Corsair.*

— Thou mockest my weakness; and wouldst steel

My breast before the time when it must feel.

But trifle now no more with my distress,
Such mirth hath less of play than *bitterness*. *Id.*

But, oh! the scenes 'mid which they met and parted
The thoughts, the recollections, sweet and *bitter*!

Maturin. Bertram.

BITTERFIELD, a town belonging to the Prussian states, in the duchy of Saxony, on the Mulda. It has 2000 inhabitants, and was founded by a colony of Flemings, whose descendants, forming an independent body, are said to possess all things in common. Here are many cloth-makers and potters. Sixteen miles south of Dessau, and eighteen S. S. W. of Wittenberg. Long. 12° 23' E., lat. 51° 39' N.

BITTER PRINCIPLE. 'Many vegetable substances,' says Dr. Thomson, 'have an intensely bitter taste, and on that account are employed in medicine, by brewers, &c. This is the case with the wood of the quassia amara and excelsa, the common quassia of the shops; with the roots of the gentiana lutea, common gentian; the leaves of the humulus lupulus, or hop; the bark or wood of the spartium scoparium, or common broom: the flowers and leaves of the anthemis nobilis, or chamomile, and many other substances. Some of these bodies owe their taste to the presence of a peculiar vegetable substance, differing from every other, which may be distinguished by the name of the Bitter Principle. When water is digested over quassia for some time it acquires an intensely bitter taste and a yellow color, but no smell. When water thus impregnated is evaporated to dryness, in a low heat, it leaves a brownish yellow substance which retains a certain degree of transparency. It continues ductile for some time, but at last becomes brittle. This substance I shall consider as the Bitter Principle in a state of purity. If it contains any foreign body it must be in very minute proportion. This substance I find to possess the following properties: 1. Its taste is intensely bitter. Color brownish yellow. 2. When heated, softens and swells, and blackens; then burns away without flaming much, and leaves a small quantity of ashes. 3. Very soluble in water and alcohol. 4. Does not alter the color of infusion of litmus. 5. Lime water, barytes water, and strontian water occasion no precipitate. Neither is any precipitate thrown down by silicated potash, aluminated potash, or sulphate of magnesia. 6. The alkalies occasion no change in the diluted solution of the bitter precipitate. 7. Oxalate of ammonia occasions no precipitate. 8. Nitrate of silver renders the solution muddy, and a very soft flaky yellow precipitate falls slowly to the bottom. 9. Neither corrosive sublimate nor nitrate of mercury occasion any precipitate. 10. Nitrate of copper, and the ammoniacal solution of copper, produce no change; but muriate of copper gives the white precipitate, which falls when this liquid is dropt into water. 11. Sulphate and oxy muriate of iron occasion no change. 12. Muriate of tin renders the solution muddy, but occasions no precipitate unless the solution be concentrated, in that case a copious precipitate falls. 13. Acetate of lead occasions a very co-

pious white precipitate, but the nitrate of lead produces no change. 14. Muriate of zinc occasions no change. 15. Nitrate of bismuth produces no change, though when the salt is dropped into pure water, a copious white precipitate appears. 16. Tartar emetic produces no change, but when the muriate of antimony is used the white precipitate appears, which always falls when this salt is dropped into pure water. 17. Muriate and arseniate of cobalt occasion no change. 18. Arseniate of potash produces no effect. 19. Tincture of nut-galls, infusion of nut-galls, gallic acid, occasions no effect. These properties are sufficient to convince us that the Bitter Principle is a substance differing considerably from all the other vegetable principles.' A second and third species of the Bitter Principle are also pointed out by this author, and his conclusions have been sanctioned by Mr. Brande. Dr. Murray (see his Chemistry), however, objects to them in toto.

BITTERS, in medicine, have been divided by Mr. Gray (Elements of Pharmacy) into the pure bitters, viz. absinthium (worm-wood), aloes spicata extractum (socotrine or Turkey aloes), aloes vulgaris extractum (hepatic or Bombay aloes), amygdala amara (bitter almond), centaurei cacumina (centaury tops), colocynthis pulpa (bitter apple pulp), gentianæ radix (gentian root), menyanthes (bogbean), quassia lignum (quassia wood), simaroubæ cortex (mountain damson bark), spartii cacumina (broom tops), taraxaci radix (dandelion). The aromatic bitters are anthemides flores (chamomile), calami radix (sweet flag root), cascarillæ cortex (cascarilla bark), cuspariæ cortex (angustura bark), lauri folia (bay leaves), limonium cortex (lemon peel), marrubium (horehound), myrrha (myrrh), valerianæ radix (valerian root). The astringent bitters are the various barks, while only one sweet bitter is enumerated as a drug, namely, the dulcamaræ caules (bitter sweet stalks). Many medical men condemn the continued and dietetic use of bitters, as rendering the person employing them more than commonly liable to apoplexy and paralytic seizures: in proof of which it is alleged that many individuals who had taken the Portland powder for a length of time, have unexpectedly fallen victims to palsy and apoplexy. But it is to be recollected that the tendency to gout and paralysis is very often co-existent; and although every habitual excitant is to be avoided, the occasional use of them is often very beneficial.

BITTERN, } Fr. *butour*; a bird with long
BITTOUR. } legs, and a long bill, which
feeds upon fish; remarkable for the noise which
he makes, usually called bumping.

The poor fish have enemies enough, besides such
unnatural fishermen as otters, the cormorant, and the
bittern. Walton.

Then to the water's brink she laid her head;
And, as a *bittour* bumps within a reed,
To thee alone, O lake, she said, I tell. Dryden.

BITTERN, in ornithology. See ARDEA.

BITUBERCULATA, in entomology, a species of cassida: color black, with a white margin; wing-cases spotted with black, a single

tubercle at the base of each. A native of Cayenne.

BITUBERCULATUS, a species of curculio, a native of New Zealand: color, ferruginous; thorax length of the wing-cases, and dotted with two tubercles on the back. Also a species of cryptocephalus crioceris, a native of Africa: color, fulvous; wing-cases, pale, bordered with fulvous.

BITUME, } Lat. *bitumen*; Gr. *πιτρυς*,
BITUMED, } *πιθος, πιθρυς*, from *πιω*. A
BITUMEN, } kind of slime mortar, says
BITUMENATED, } Golding, issuing out of the
BITUMENOUS. } ground in divers places
about Babylon, and which was one of the ingredients used in building the wall of that once famous city. It is also sometimes scummed off lakes, as the Asphaltis in Judea, and is occasionally of so hard a consistence as to be used for coals.

Mix with these

Ioæan pitch, quick sulphur, silver's spume,
Sea onion, hellebore, and black *bitume*. May.

Where is Marcus' Scæurus Theater, the *bituminated*
walls of Babylon? and how little rests of the Pyra-
mids of Egypt! Feltham.

It is reported, that *bitumen* mingled with lime, and
put under water, will make as it were an artificial
rock, the substance becometh so hard. Bacon.

The fabrick seemed a wood of rising green,
With sulphur and *bitumen* cast between. Dryden.

BITUMEN. This term includes a considerable range of inflammable mineral substances, burning with flame in the open air. They are of different consistency, from a thin fluid to a solid; but the solids are for the most part liquefiable at a moderate heat. The principal bitumens are: *Naphtha*; a fine, colorless oil, which issues out of clay in Persia and Media. It is highly inflammable, and is decomposed by distillation. It dissolves resins, but is not itself soluble either in alcohol or ether. It is the lightest of all the dense fluids, its specific gravity being 0.708. *Petroleum*, which is a dark oil, found dropping from rocks or oozing from the earth, in various parts of Europe and Asia: this also is insoluble in alcohol, and contains a portion of the succinic acid. *Barbadoes tar*, which is a viscid black inflammable substance, also insoluble in alcohol, and containing the succinic acid. *Asphaltum*, mineral pitch, of which there are three varieties: the collesive; the semi-compact, maltha; the compact, or asphaltum. These are smooth, inflammable substances, which melt easily, leaving but little ashes, if pure. They are partially acted on by alcohol and ether.

Mineral tallow, a white substance resembling tallow. It was found in the sea on the coasts of Finland, in the year 1736; and is also met with in some rocky parts of Persia. It is near one-fifth lighter than tallow; burns with a blue flame, leaving a black viscid matter behind, which is with more difficulty consumed. *Elastic bitumen*, of which there are two varieties: 1. Mineral caoutchouc, the color of which varies from yellowish brown to olive blackish or reddish brown. The light colored is often in a semi-fluid state, and adheres to the fingers; the olive brown is solid and elastic. 2. Suberiform mineral caout-

chouc. This substance, when recently cut, exactly resembles fine close cork in color and texture; but, by exposure for a few days to the air, it becomes of a pale reddish brown color. The different sorts of coal are also ranked as bituminous substances.

BITUMEN HYBLEANUM, in mineralogy, a name given by Boccone and others to a peculiar species of bituminous fossil, which is flexible while in the earth. It is a stony substance, smelling like the common bitumens, and composed of a very great number of thin plates, laid regularly on one another. When burnt in a candle the bituminous smell is perceived very strong; and the stone, though when first taken up it be flexible like paper, yet in time hardens and becomes brittle like other fossils of that lax consistence. There are found whole hillocks covered with it. This does not prevent their bearing plants and herbage, the roots of the grass, &c. insinuating themselves between the laminæ of this stone, and getting nourishment there.

BITUMEN JUDAICUM. See **ASPHALTUM**.

BITUREX, **BITURICÆ**, or **BITURIGES**, afterwards corrupted to **BOURGES**, the name of Avaricum, from the custom in the lower age of calling towns from the names of the people. See **AVARICUM**.

BITURIGES, or **BITURIGES CUBI**, the ancient inhabitants of that part of Gallia Celtica, afterwards assigned to Aquitania, now called Berry.

BITURIGES VIBISCI, a people of Aquitain.

BIVENTER, in anatomy, called also digastric, or two-bellied, a muscle of the lower jaw. See **ANATOMY**.

BIVITTATUS, in entomology, a species of scarabeus melolontha, inhabiting Brasil: color yellow and glossy; on the head and thorax two common stripes, and many abbreviated green striæ on the wing-cases. Also a species of curculio, found in St. Thomas's Island: black; wing-cases striated with dots; marginal and dorsal interrupted stripe of yellow.

BIUMBRES, an appellation given to the inhabitants of the torrid zone, because, at two different seasons of the year, their shadows are projected two different ways. The same with the Amphiscii.

BI'VALVE, } From Lat. *binus* and *valva*.

BI'VALVED, } Having two valves or shut-

BI'VALVULAR. } ters: a term used of those fish that have two shells, as oysters; and of those plants whose seed-pods open their whole length, to discharge their seeds, as peas.

In the cavity lies loose the shell of some sort of *bivalve*, larger than could be introduced in at those holes. Woodward.

BIVOUAC. See **BIOVAC**.

BIVOUAC, Ger. a guard, is used for a guard performed by a whole army at a siege, or when lying before an enemy, and during the night; but in modern military usage is frequently applied to any number of men keeping night-watch or guard at a distance from quarters; and an army that does not encamp, but lies under arms all night, is, in like manner, said to bivouac.

The excubiæ of the Romans correspond with these duties, which were done night and day.

BIXA, in botany, the roucou or arnotto tree; a genus of the monogynia order, and polyandria class of plants; ranking, in the natural method, under the thirty-seventh order, columniferæ: cor. ten-petaled: cal. quinque-dentate: the caps. hispid and bivalved. Of this genus there is but one species known, viz. *B. orellana*, a native of the warm parts of America. It rises with an upright stem to the height of eight or ten feet, sending out many branches at the top, forming a regular head, garnished with heart-shaped leaves, ending in a point, and having long foot-stalks. The flowers are produced in loose panicles at the end of the branches. See **ARNOTTO**.

BIZARRE, in botany, a term used among florists for a particular kind of carnation, which has its flowers striped or variegated with three or four colors.

BIZOCCHI, or **BISOCCHI**, in church history certain heretical monks, who are said to have assumed the religious habits contrary to the canons, rejected the sacraments, and maintained other errors.

BIZZARO, in the Italian music, a fanciful kind of composition, sometimes fast, slow, soft, strong, &c. according to the composer's fancy.

BLAB, *v. & n.* Junius refers to babbling; **BLAB'ING**, *n.* } in Dutch, *blabberen*. 'Per-
BLAB'BER, *v.* } haps,' says the Lexicon of the Ency. Met. 'from *labben*; Ang.-Sax. *lapan*, to lap or lip.' To talk from the lips without thought or consideration; to let out, as if unable to contain it, all that we know; to betray from mere folly without malice or design. Dr. Johnson says, it usually implies rather thoughtlessness than treachery; but may be used in either sense.

Might I enjoy my love till I unfold it,
I'd lose all favours when I blabbing told it.

Spenser.

Why have I blabbed? Who shall be true to us,
When we are so unsecret to ourselves? Shakspeare.

Your mute I'll be;

When my tongue blabs, then let mine eyes not see.

Id.

The secret man heareth many confessions; for
who will open himself to a blab, or babbler? Bacon.

To have revealed

Secrets of man, the secrets of a friend,
Contempt and scorn of all, to be excluded

All friendship, and avoided as a blab. Milton.

Whoever shews me a very inquisitive body, I'll
shew him a blab, and one that shall make privacy as
publick as a proclamation. L'Estrange.

I should have gone about shewing my letters,
under the charge of secrecy, to every blab of my
acquaintance. Swift.

Nor whisper to the tattling reeds,

The blackest of all female deeds:

Nor blab it on the lonely rocks,

Where echo sits, and listening rocks. Id.

Nature has made man's breast no windows,

To publish what he does within doors;

Nor what dark secrets there inhabit,

Unless his own rash folly blab it. Hudibras.

Sorrow nor joy can be disguised by art,

Our foreheads blab the secrets of our heart.

Dryden.

It is unlawful to give any kind of religious worship
to a creature; but the very indices of the fathers cannot
escape the index expurgatorius, for blabbing so
great a truth. Stillingfleet.

BLACK', *v. n. & adj.*
BLACK'EN,
BLACK'ENER,
BLACK'ING,
BLACK'ISH,
BLACK'LY,
BLACK'NESS,
BLACK'BROWED,
BLACK'EYED,
BLACK'FACED,
BLACK'GUARD,
BLACK'MOOR,
BLACK'NESS,
BLACK'VISAGED.

Ang.-Sax. *blac-ian*,
Germ. *black*. Of un-
known etymology. Li-
terally applied to the
color of the night; to
darkness; figuratively,
to what obscures, pol-
lutes, or soils a charac-
ter or reputation; to
whatever is gloomy, dis-
mal, fearful, and terri-
fic; to that which is
concealed; to nefari-
ous, wicked, foul, atro-

cious and disgusting criminality. It therefore describes natural objects, mental apprehensions, and moral delinquencies. Over them all it throws the pall of night, the gloomy horrors of the outer darkness.

In the twilight, in the evening, in the *black* and dark night.

The heaven was *black* with clouds and wind, and there was a great rain. *1 Kings.*

Him had lover, I dare wel undertake,
At thilke time (than all his wethers *black*),
That she had had a ship hireself alone,
And therefore, wost thou what is best to done.

Chaucer. Cant. Tales.

By that the welkin Phœbus gan availle
His wearie waine, and now the frostie night
Her mantle *black* through heaven gan overhaye.

Spenser.

Here no night-ravens lodge, more *black* than pitch,
Nor elvish ghosts, nor ghastly owles doe flee. *Id.*

A dire induction am I witness to;
And will to France, hoping the consequence
Will prove as bitter, *black*, and tragical. *Shakspeare.*

She hath abated me of half my train;
Look'd *black* upon me. *Id.*

His faults in him seem as the spots of heaven,
More fiery by night's *blackness*. *Id.*

Come, gentle night; come, loving, *black-browed*
night,
Give me my Romeo. *Id.*

More to west
The realm of Bocchus to the *blackmoor* sea. *Milton.*

Either my country never must be freed,
Or I consenting to so *black* a deed. *Dryden.*

Rise, wretched widow, rise; nor, undeplord,
Permit my ghost to pass the Stygian ford:
But rise, prepared in *black* to mourn thy perished
lord. *Id.*

Let us *blacken* him what we can, said that mis-
creant Harrison of the blessed king, upon the wording
and drawing up his charge against his approaching
trial. *South.*

Let a *black-guard* boy be always about the house, to
send on your errands, and go to market for you on
rainy days. *Swift.*

They are no more afraid of a *blackamore*, or a lion,
than of a nurse or a cat. *Locke.*

There would emerge one or more very *black* spots,
and, within those, other spots of an intenser *blackness*.
Newton.

His tongue, his prating tongue, had changed him
quite
To sooty *blackness* from the purest white. *Addison.*

To horse! to horse! my coal-black steed
Paws the ground and snuffs the air!
There is not a foal of Arab's breed
More knows whom he must bear.

Byron. Deformed Transformed.

BLACK, THE COLOR OF. Black is supposed to be owing to the absence of light, most of the rays falling upon black substances being not reflected but absorbed by them. * Concerning the peculiar structure of such bodies as fits them for appearing in this or that particular color, see the article COLOR.

BLACK, in painting. There are several species of blacks used in painting, of which the following are the principal. Frankfort black, of which there are two sorts, one a natural earth inclining to blue; and the other made from the lees of wine burnt, washed, and ground with ivory, bones, or peach stones. This black is much used by the copper-plate printers, for their fine ink to work their engravings. Ivory black is burnt ivory, or bones reduced to powder, and ground in oil or water as required. Spanish black is burnt cork reduced in a similar manner. Harts black is that which remains in the retort after the spirits, volatile salt, and oil have been extracted from hartshorn, and, when properly levigated, answers the purpose of painters nearly as well as ivory black. Lamp black is originally the soot collected from lamps, but is generally prepared in England at the turpentine manufactories, by burning the dregs after the refining of pitch or other resinous matter, or small pieces of pitch pine in furnaces constructed for the purpose; the smoke is made to pass through a long horizontal flue, terminating in a close boarded chamber, which has its roof covered with a coarse cloth, through which the air passes, and leaves the soot or lamp black behind. The goodness of this black depends much on its lightness and depth of color.

BLACK (Joseph), M. D. celebrated for his chemical discoveries, was born in France, on the banks of the Garonne, in 1728. His father, who was born in Belfast, of a Scottish family which had settled there, being engaged in the wine trade made Bourdeaux the chief place of his residence; where he was distinguished as a man of extensive information, and liberal sentiments. The character of Mr. Black attracted the attention, and gained him the friendship, of the benevolent and discerning Montesquieu, then one of the presidents of the court of justice in the province; and fragments of their correspondence are preserved in the Black family. Mr. Black sent his son Joseph, at about twelve years of age, to Belfast, for his education. He removed to the university of Glasgow in 1746. While he studied at that university, his attention appears to have been chiefly engaged by physical science; and he gained the particular notice of Dr. Dick, then professor of natural philosophy. Having finished the ordinary course of study, he determined on medicine as his profession. About this time the university of Glasgow appointed Dr. Cullen lecturer on chemistry; a science which had hitherto been considered more as a curious than as an useful art; but this great man having taken a wide and comprehensive view of the unoccupied field of philosophical chemistry, and being satisfied that it was susceptible of great improvement, determined to enter the unbeaten path, and to lead his followers to all those regions which are included in this comprehen-

sive and attractive science. Mr. Black became his pupil; and now, perhaps, the foundation was laid of that knowledge and fame which he afterwards acquired as a philosopher and a chemist. Dr. Cullen was interested in the progress of his students, and delighted in encouraging and assisting them. He soon perceived that the bias of the young philosopher's pursuits accorded with his own. Mr. Black was received into the closest intimacy, and became a valuable assistant to Dr. Cullen, in his chemical operations; the experiments of the pupil being often stated as good authority in proof of what was advanced by the lecturer. To complete his medical studies, Dr. Black went to Edinburgh in 1751, at which period the mode of lithontriptic medicines, particularly lime-water, in alleviating the pains of stone and gravel, divided the opinions of professors and practitioners. This was an interesting subject both to the physician and chemist; and particularly suited the taste of Mr. Black. From some of his memorandums, he seems at first to have held the opinion, that the causticity of alkalies is owing to the igneous matter which they derive from quick-lime; but, after prosecuting his experiments, this grand secret of nature was developed to his view; which led him to conclude, that the acrimony of these substances was not owing to their combination with igneous particles; that it was their peculiar property; and that they lost this property and became mild, by combining with a certain portion of air, which he named fixed air; because it was fixed or become solid in the substances into the composition of which it entered. This grand discovery, which forms one of the most important eras in chemical science, was the subject of his inaugural dissertation, published when he obtained his medical degree in the university of Edinburgh. Dr. Cullen about this time was removed to Edinburgh, leaving the medical chair at Glasgow vacant; and Dr. Black was considered amply qualified to fill it. Accordingly, in 1756, the university of Glasgow appointed him professor of anatomy and lecturer on chemistry; but the former branch either did not suit his taste, or he did not consider himself qualified to be useful in it; for he soon after made arrangements with the professor of medicine, by which the departments were exchanged, taking upon himself that of the institutes and practice of medicine. Dr. Black was now in a situation, fortunately for the public and for science, which allowed him full time to dedicate his talents to cultivating his favorite science of chemistry. At first, however, his lectures on medicine chiefly occupied his attention; and in them he gave great satisfaction. He also became a favorite physician in Glasgow. Between the years 1759 and 1763 his speculations concerning heat, which had occupied his attention at intervals, from the commencement of his philosophical investigations, were brought to maturity; and his discoveries in this department of science were by far the most important of all that he made. The nature of these investigations will appear in their proper place; but it may be observed here, that although Dr. Black never published an account of his doctrine of latent heat, by detailing it every

year subsequent to 1762, in his lectures, which were attended by scientific men from all parts of Europe, gave an opportunity for others to avail themselves of his researches. The ideas which Dr. Crawford adopted respecting the capacity of bodies for heat, were originally borrowed from Dr. Black; and the investigations of Lavoisier and Laplace concerning heat, which they published many years after, were evidently derived from him; some of them, indeed, being the very experiments suggested by him. M. De Luc, however, having expressed his admiration of Dr. Black's theory of latent heat, offered to become his editor, and Dr. Black was prevailed upon to communicate the proper information; but what was the surprise of the doctor and his friends, when the *Idées sur la Meteorologie* of that philosopher were published in 1788, to find the doctrine claimed by De Luc as his own; the writer only expressing his satisfaction, from what he had learned, that Dr. Black's opinions and his coincided! Dr. Cullen being appointed professor of medicine in the university of Edinburgh, in 1766, left the chemical chair of that university vacant; and Dr. Black, who had filled his place in Glasgow, was now, with universal consent, appointed to succeed him in Edinburgh. Here his talents were still more conspicuous, and he was more extensively useful. The consequence was, perhaps, in some respects to be regretted; his whole attention was directed to his lectures, with a view to adapt them to the most illiterate of his hearers; and thus the improvement of the science was neglected. He was, however, completely successful in his object; for his lectures were not only instructive, but delightful, and the knowledge of chemistry was greatly extended. The delicacy of Dr. Black's constitution was doubtless another reason why he did not contribute more towards rearing that noble superstructure of chemical science, the foundation of which he had been the means of establishing on a firm basis. The slightest cold, or the smallest approach to repletion, instantly affected his breast, and brought on a degree of fever, followed by a spitting of blood, of two or three days continuance. Only relaxation of thought and gentle exercise restored him; but whenever he engaged in close study on any subject, a sensible increase of his complaints was the consequence. He indeed seemed to have no ambition to appear as an author; but when his friends, desirous he should have the honor of his discoveries, and prevent others from adopting them as their own, urged him to, publish an account of his investigations, he repeatedly began the task, and as often laid it aside. It was the necessity of placing what was pointed at in his inaugural dissertation in a proper light, that brought his *Experiments on Magnesia, Quick-lime, and other Alkaline Substances*, to public view; and after much entreaty, his *Observations on the more ready Freezing of Water that has been boiled*, was published in the *Philos. Trans.* for 1774; to which, if we add his *Analysis of the Waters of some Boiling Springs in Iceland*, made at the desire of his friend T. J. Stanley, Esq. which was read to the Royal Society of Edinburgh, and published by the council; we mention all the works from his pen that he ever

printed. Dr. Black anxiously wished that he might not long be confined to a sick-bed; and in this he was fully gratified. Sitting at table, on the 26th of November, 1799, with his accustomed fare, some bread, a few prunes, and a measured quantity of milk diluted with water, with the cup in his hand, when his pulse was to give the last stroke, he rested it on his knees, and expired without a convulsion, shock, or stupor, to announce or retard the approach of his end. Dr. Black was a stranger to none of the elegant accomplishments of life; he had a fine musical ear, with a voice to obey it in the completest manner; and he not only sung and performed on the flute, but he could sing a plain air at sight. Though he had not studied drawing, he possessed considerable talent as a painter. He was a lover of society, and beloved in it; his countenance was pleasant, and his manners graceful. His Lectures on the Elements of Chemistry were published in 2 vols, 4to. in 1803, by Dr. Robison, who prefixed a memoir of the author, to which we are indebted.

BLACK, in geography, a river of North America, in Vermont, which rises near Shrewsbury, in Rutland county, and passing into Windsor county, runs south for several miles, till at last, turning south-east, it falls into the Connecticut, opposite to Charlestown.

BLACK, the name of another river in Vermont, which rises in Minden township, Orange county, and running north about thirty miles, falls into the lake Memphremagog.

BLACK'BERRIED Heath, Lat. *empetrum*. The name of a plant.

BLACK'BERRY, *n. s.* The fruit of the bramble.

The policy of these crafty sneering rascals, that stale old mouse-eaten cheese Nestor, and that same dog-fox Ulysses, is not proved worth a *blackberry*.

Shakspeare.

Then sad he sung the Children in the Wood;
How *blackberries* they plucked in desarts wild,
And fearless at the glittering faulchion smiled. *Gay.*

BLACK'BERRY, Bush, *n. s.* Lat. *rubus*. A species of bramble.

BLACK'BIRD, *n. s.* from black and bird. The name of a bird.

Of singing-birds, they have linnets, gold-finches, *blackbirds*, thrushes, and divers others. *Carew.*

A schoolboy ran unto it, and thought
The crib was down, the *blackbird* caught. *Swift.*

BLACK-BIRD, in ornithology. See **TURDUS**.

BLACK-BOOK, a book kept in the Exchequer, in which the orders of that court are entered. See **EXCHEQUER**.

BLACK-BOOK OF THE ENGLISH MONASTERIES was a work that gave a detail of the scandalous enormities practised in religious houses; and was compiled by the visitors under king Henry VIII. to blacken them, and thus hasten their dissolution.

BLACKBURN, a market-town of Lancashire, seated on the Blackwater, near the river Derwent, and containing about 20,000 inhabitants. It carries on a great trade, but is chiefly noted for its manufactures of calicoes. Muslins and cotton have also been added; and it is much improved by the late inland navigation; it has now communications with the rivers Mersey, Dee, Rib-

ble, Ouse, Trent, Severn, Humber, Thames, Avon, &c. The old weekly market on Monday, was changed, in 1774, to Wednesday, and is well supplied. Over the river are four stone bridges. It lies eight miles east of Preston, and 212 from London.

BLACKBURN, a river of Scotland, in Roxburghshire, remarkable for its beautiful water-falls, and no less so for a natural bridge of stone over it. See **BRIDGE**, **NATURAL**.

BLACKBURNE (Francis), archdeacon of Cleveland, was born at Richmond, in Yorkshire, in 1705. He was admitted pensioner of Catharine Hall, Cambridge, at the age of seventeen, and took the degree of bachelor. Being elected conduct or chaplain-fellow he was ordained deacon, on this title, in 1728. In 1739 he took priest's orders, on his induction to the rectory of his native town Richmond, and was for some time chaplain to Dr. Hutton, archbishop of York, by whom he was collated, in 1750, to the archdeaconry of Cleveland, and in the same year to the prebend of Bilton. In the course of this year he wrote An Apology for the Author of a Book, entitled, Free and Candid Disquisitions relating to the Church of England, &c. supposed to have been himself. He subsequently printed several single sermons and charges. In 1756 he published a work entitled No Proof in the Scriptures of an Intermediate State of Happiness or Misery, between Death and the Resurrection. He wrote several other pieces on the same topic, concluding, in 1765, with A Short Historical View of the Controversy concerning the Intermediate State: of which work an edition, with large additions, was published in 1772. In 1768 he began to publish his sentiments on subscription to articles of faith in Remarks on the Rev. Dr. Powell's Sermon in Defence of Subscription; a work preliminary to The Confessional; or a Full and Free Enquiry into the Right, Utility, Edification, and Success of Establishing Systematical Confessions of Faith and Doctrine in Protestant Churches, 8vo, 1766. This consists of eight chapters, the three first of which contain a view of the rise and progress of confessions of faith, the right to establish them, and their utility and expediency when established; the fourth and fifth chapters examine bishop Burnet's mode of justifying subscription, and expose the casuistry of those who pursue a different method; the sixth and seventh appreciate the sentiments and reasoning of the writers who plead for a latitude, and whence the practice of subscribing in different senses has been derived; and the last sums up the whole. The work excited considerable attention, and a supposition being entertained that the writer would not remain in the church, some leading members of the dissenting congregation in the Old Jewry, London, on the death of Dr. Chandler, in 1766, invited Dr. Blackburne to succeed him. This proposal he declined; but shortly after refused a living of considerable value, because it required him to renew his subscription, although the revenue of all his other preferments did not exceed £200 per annum. In 1768 he published Considerations on the present State of the Controversy between the Protestants and Papists of Great Britain and Ireland, in which he denies

the title of the latter to toleration on Protestant principles, on the ground, that persecutors on system ought not to receive toleration. In order to restrain abuses which had crept into the spiritual court at Richmond, he accepted in 1767 the office of commissioner to the commissary of that archdeaconry, and acted in that capacity with great skill and judgment. When advanced in years, he adopted the idea of writing the life of Martin Luther, but was diverted from the design by the death of the philanthropic Mr. T. Hollis, a memoir of whom was undertaken by archdeacon Blackburne. He executed his professional duties to the last, dying at his parsonage-house at Richmond, August 7th 1787. Dr. Blackburne, though connected with that party by relationship, was not, it seems, a Unitarian. On the secession of Dr. Disney from the church, he drew up an answer to the question, 'Why are you not a Unitarian?' which was not published, however, until after his decease. There appears considerable inconsistency in his continuing within the pale of an establishment, to whose leading feature of a subscription to the articles he so decidedly objects: yet he is said to have considered the imposition, rather than the sense of them, the object of his dissent; and so to have excused himself for retaining his preferment.

BLACK-CATTLE, *n. s.* Oxen, bulls, and cows.

The other part of the grazier's business is what we call *black-cattle*, produces hides, tallow, and beef for exportation. *Swift.*

BLACK FOREST, a celebrated forest in Germany, in Suabia, more properly called the SCHWATZWALD, which see.

BLACK FRIARS; a name given to the Dominican order; called, also, predicants and preaching friars; in France Jacobins.

BLACKGUARD. This name was originally given to the scullions and coal-carriers to great houses and royal residences, who, in the progresses of the families from one place to another, usually rode in the carts with the pots and kettles. In modern nomenclature it stands for the low, base, vulgar, and impudent, whether they ride in coaches, or drive them; whether they wear stars or black shoes.

BLACKHALL (Dr. Offspring), bishop of Exeter in the beginning of the eighteenth century, was born at London, 1654, and educated at Cambridge. For two years he refused to take the oath of allegiance to king William and queen Mary, but at last submitted, though he condemned the Revolution, and all that had been done pursuant to it. He was a man of great piety, had much primitive simplicity and integrity, and a constant evenness of mind. In a sermon before the House of Commons, January 36th, 1699, he animadverted on Toland's assertions in his *Life of Milton*, that Charles I. was not the writer of the *Basilike*, and on some insinuations against the authenticity of the Holy Scriptures; which produced a controversy between him and that author. In 1600 he preached a course of sermons in St. Paul's at Boyle's lecture, which were afterwards published; and was consecrated bishop of Exeter in 1707. He died at Exeter in 1716.

BLACKHEATH, a fine elevated plain, in the county of Kent, five miles south-east of London, situated in the parishes of Greenwich, Lewisham, and Lee, and commanding very beautiful prospects both of the metropolis, and the country around. In 1400 the interview between Henry IV. and the emperor Manuel Palæologus, when he visited England to solicit aid against Bajazet, took place on Blackheath. Holinshed, iii. 519. It was here that, in 1415, the citizens of London solemnly congratulated Henry V. after the battle of Agincourt. Ib. 556. Here, also, in the following year, the same body met the emperor Sigismund, who came to mediate a peace between France and England, and conducted him to the king, at Lambeth. Ib. On this plain the famous Wat Tyler mustered his 100,000 men. Here, also, Jack Cade appeared in 1450. Here were the royal head-quarters of the Lancasterians in the commencement of the contest between Henry VI and Edward IV.; and it was the plain of battle on which Lord Audley and the Cornish rebels were defeated, in 1497, by Henry VII. The site of Michael Joseph's tent was shown to Lambard when he wrote his *Perambulations of Kent*. It was called *The Smith's Forge*, for Joseph, one of the ringleaders in this insurrection, was by trade a blacksmith. Cardinal Campeius was received here on his arrival by a splendid deputation from the court, in 1519; and Henry VIII. twenty-one years afterwards, chose it as the spot on which he met Anne of Cleves. Holinshed, 948. In the year 1780 a cavern was discovered on the side of the ascent to Blackheath by the Dover road, consisting of seven spacious apartments, from twelve to thirty-six feet wide, some with large conical domes, thirty-six feet high, supported by a column of chalk, forty-three yards in circumference; 170 feet from the surface of the ground is a well of clear water twenty-seven feet deep. This noble plain is annually lessening by the number of houses erected on it.

BLACK ISLAND, an island near the coast of America, belonging to the state of Rhode island. Long. 71° 35' W., lat. 41° 7' N.

BLACK ISLANDS; islands near the coast of Labrador. Long. 56° 30' W., lat. 53° 54' N.

BLACKHALL HEAD, a cape on the south-west of Ireland, at the north side of the entrance into Bantry bay, in the county of Cork. Long. 9° 55' W., lat. 51° 32' N.

BLACKHEAD, a cape on the east coast of Ireland, at the north entrance into Belfast Lough, four miles north-east of Carrickfergus. 3. A cape on the south coast of Ireland, on the west side of Kinsale harbour, five miles south of Kinsale. 3. A cape on the west coast of Ireland, on the south side of the entrance into Galway bay. Long. 9° 11' W., lat. 53° 7' N. 4. A cape on the west coast of Scotland, in the county of Wigton, six miles W.S.W. of Stranraer. 5. A cape of England, on the coast of Cornwall. Long. 5° 4' W., lat. 50° 1' N. 6. A cape on the east coast of New Zealand, twenty-two miles N.N.E. of cape Kidnappers. 7. A cape on the east coast of Labrador. Long. 64° 50' W., lat. 59° 58' N.

BLACKING is a term sometimes used to sig-

nify a factitious black; as shoe-black, &c. A mixture of ivory or lamp-black with linseed oil makes a common oil-blackening. For a shining watery blacking small beer is used, in the proportion of about a pint to two ounces of ivory black, with the addition of half an ounce of brown sugar, and a quarter of an ounce of gum arabic. The white of an egg substituted for the gum makes the black more shining; but is supposed to hurt the leather, and make it apt to crack. The famous compositions under this name, that whiten the walls of the royal parks, &c., and the neighbourhood of various large towns, are notorious, we believe, for containing large portions of the oil of vitriol for the benefit of the tanners and shoe-makers. A celebrated maker and vender of one of these nostrums, we understand, actually reduced himself to blindness by his long attention to the concocting of it.

BLACK LAND, in agriculture, a term by which husbandmen denote a particular sort of clay soil, which, however, they know more by its other properties than by its color, which is rarely any thing like a true black, and often but a pale gray. This, however pale when dry, always blackens by means of rain; and when ploughed up at these seasons, it sticks to the ploughshares, and the more it is wrought, the muddier and duskier colored it appears. This sort of soil always contains a large quantity of sand, and usually a great number of small white stones.

BLACK-LEAD, *n. s.* from black and lead. A mineral found in the lead-mines, much used for pencils; it is not fusible, or not without a very great heat.

You must first get your *black-lead* sharpened finely, and put fast into quills, for your rude and first draught. *Peacham.*

BLACK LEAD; plumbago. See **LEAD**, **BLACK**.

BLACK LEATHER, is that which has passed the currier's hands, where, from the russet, as it was left by the tanners, it is become black, by having been scored and rubbed on the grain side with a solution of vitriolated iron, or, as it is vulgarly called, *copperas*. See **LEATHER**.

BLACK-LEGS, a name given in Leicestershire to a disease frequent among calves and sheep. It is a kind of jelly which settles in their legs, and often in the neck, between the skin and the flesh.

BLACKLOCK (Thomas), D. D., a Scottish divine and poet, was born in 1720, at Annan, in Dumfriesshire. His father was a bricklayer, respectable in his character, but of limited means. Before he was six years old, this son lost his sight by the small-pox; and being thus incapable of exercising any trade, his father encouraged the inclination he had early shown for books. By the aid of his companions at home he acquired some knowledge of Latin; and poetry, in his peculiar circumstances, possessed of course irresistible attractions for him. At twelve years of age he produced some pieces of considerable merit. At the age of nineteen he lost his father: and, some of his poems having been shown to Dr. Stevenson of Edinburgh, that gentleman formed the benevolent design of procuring for him in Edinburgh a classical education. Thither he accordingly went in 1741, as a student of divinity, and continued his studies

at the university till 1745. In 1746 he published a volume of his poems in 8vo., and obtained, among other literary acquaintance, that of the celebrated David Hume, who warmly interested himself in his favor. In 1754 these poems had reached a second edition in 8vo. Mr. Spence, professor of poetry at Oxford, from regard to the author, prefixed an account of his life and writings. About this time he made himself acquainted with the French language. In 1759 he was licensed as a preacher by the presbytery of Dumfries, and obtained no small reputation by the different sermons he preached, of which he left some volumes in MS. Having married in 1762, he obtained, by Lord Selkirk's interest, the royal presentation to the parish of Kirkcudbright, but the inhabitants strongly opposing the presentation, a moderate annuity was proposed to Mr. Blacklock upon his resigning his right to the living. With this provision he finally removed, in 1764, to Edinburgh, and opened a school, in which he continued until within a short time before his death. In 1767 the university of Aberdeen conferred on him the degree of D. D. Dr. Blacklock died after an illness of only eight days, on the 7th July, 1791. Besides his poems above-mentioned, he wrote *Paraclesis*, or *Consolations* deduced from *Natural and Revealed Religion*, &c.; also the *Graham*, an *Heroic Ballad*, 1774. See the article **BLIND**.

BLACK MAIL, in antiquity, a certain rate of money, corn, cattle, or other matter, anciently levied on the inhabitants of towns on the Scottish borders, by various persons allied with notorious robbers and adventurers of that neighbourhood, in order to be freed and protected from pillage. It was prohibited as felony, by 43 Eliz. c. 13.

BLACK MONKS, a denomination given to the Benedictines, called in Latin *nigri monachi*, or *nigro monachi*; sometimes *ordo nigrorum*, the order of blacks.

BLACKMORE, (Sir Richard), a physician, and voluminous writer of theological, poetical, and medical works. Having declared himself early in favor of the Revolution, king William, in 1697, knighted him, and chose him one of his physicians in ordinary. On queen Anne's accession, Sir Richard was also appointed one of her physicians. Dryden and Pope treated his poetical performances with great contempt; and in a note in the *Dunciad*, we are informed that his 'indefatigable muse produced no less than six epic poems: *Prince and King Arthur*, twenty books; *Eliza*, ten; *Alfred*, twelve; *The Redeemer*, six; besides *Job*, in folio; the whole book of *Psalms*; *The Creation*, seven books; *Nature of Man*, three books; and many more.' Gay gives us a satirical catalogue of his principal performances, which we have not space to insert. It will be quite enough for the reader to know, with regard to his Scripture pieces,

What wonders then the man grown old did,
Sternhold himself he out Sternholded;
Made David seem so mad and freakish,
All thought him just what thought king Achish.
No mortal read his Solomon,
But judged Rehoboam his own son;
Moses he served as Moses Pharaoh,
And Deborah as she Sisera.

Addison, however, in the *Spectator* (No. 339), bestowed some liberal commendations on his poem on the Creation; and Johnson, at the close of a dull, sarcastic life of the poet, eulogises the same production. He died October 9th, 1729.

BLACK MOUNTAINS, a chain of mountains in Germany, in the circle of Suabia, one of the highest and most rugged of which, Mount Rottensolhe, was the scene of a most obstinate contest between the French and Austrians on the 9th July, 1796. The centre of the French army under General St. Cyr was four times repulsed, but the fifth charge proving successful, the Austrians were driven from the mountain with the loss of 1100 men.

BLACK NIB, a cape of Ireland, in the Irish Sea, on the east coast of the county of Down. Long. $5^{\circ} 24' W.$, lat. $54^{\circ} 21' N.$

BLACK PROCESSION, in ecclesiastical writers. Anciently at Malta, there was a black procession every Friday, where the whole clergy walked with their faces covered with a black veil.

BLACK-PUD'DING, *n. s.* from black and pudding. A kind of food made of blood and grain.

Though they were lined with many a piece

Of ammunition bread and cheese,

And fat black-puddings, proper food

For warriors that delight in blood. *Hudibras.*

BLACK RENTS, the same with **BLACK MAIL**, which see.

BLACK RIVER, a town of New Jersey, twenty-one miles N. N. W. of New Brunswick.

BLACK RIVER, a river of Ireland, which runs into Lough Corrib, eight miles south of Ballinrobe. 2. A river of America, which runs into Honduras Bay. Long. $85^{\circ} 28' W.$, lat. $15^{\circ} 55' N.$ 3. A river of South Carolina, which runs into the Pedee. Long. $99^{\circ} 5' W.$, lat. $23^{\circ} 29' N.$ 4. A river of America, which runs into Lake Michigan. Long. $86^{\circ} 52' W.$, lat. $42^{\circ} 42' N.$ 5. A river of Canada, which runs into lake Superior. Long. $86^{\circ} 52' W.$, lat. $48^{\circ} 40' N.$ 6. A river of North America, which runs into Black Bay, in Lake Superior. Long. $88^{\circ} 15' W.$, lat. $48^{\circ} 45' N.$ 7. A river of Jamaica, one of its largest streams, and navigable for canoes about thirty miles.

BLACK-ROD, *n. s.* from black and rod. The usher belonging to the order of the garter; so called from the black rod he carries in his hand; he is of the king's chamber, and likewise usher of the parliament.

BLACK SEA, or **EUXINE**. See **EUXINE**.

BLACK SHEEP, in Oriental history, the ensign or standard of a race of princes, once settled in Armenia and Mesopotamia; hence called the dynasty of the black sheep.

BLACK-SMITH, *n. s.* from black and smith, A smith that works in iron; so called from being very smutty.

The blacksmith may forge what he pleases. *Howel.*

Shut up thy doors with bars and bolts; it will be impossible for the blacksmith to make them so fast, but a cat and a whoremaster will find a way through them. *Spectator.*

BLACK, SPANISH, so called, because first invented by the Spaniards, and most of it bought from them; is no other than burnt cork, used in various works, particularly among painters.

BLACKSTONE, or **PAWTUCKET**, a river of the United States, in Massachusetts, which rises in Worcester county and running south-east passes into the State of Rhode Island, and runs over Pawtucket Fells, in that state, where mills are erected. Here it gets the name of Providence, and turning S. S. E. falls into the Naraganset Bay. It is navigable up to Providence, in ships of 950 tons burden.

BLACKSTONE (Sir William), an eminent English lawyer, was born in London in July 1723. His father, a silk mercer and citizen of London, died some months before his birth. He was the youngest of four children; and his mother died before he was twelve years old. From his birth, therefore, the care of his education and fortune was kindly undertaken by his maternal uncle, Mr. Thomas Bigg, an eminent surgeon of London. At seven years of age he was sent to the Charter-house, and applied himself to every branch of youthful education, with the same assiduity which accompanied his studies through life. At the age of fifteen he was at the head of the school, and well qualified to be removed to the university. He was accordingly entered a commoner at Pembroke college, in Oxford, on the 30th November, 1738, and the next day matriculated. About this time he obtained Mr. Benson's gold Milton prize-medal, for verses on that poet. In February, 1739, the society of Pembroke college unanimously elected him to one of Lady Holford's exhibitions for Charterhouse scholars. Before he was of age he compiled a treatise entitled *Elements of Architecture*, intended for his own use only. Having made choice of the law for his profession, he was entered in the Middle Temple on the 20th November, 1741, and on this occasion composed his *Lawyer's Farewel to his Muse*; since published by Doddsley in the fourth volume of his *Miscellanies*. In November, 1743, he was elected into the society of All-souls college; and in the November following delivered the anniversary speech in commemoration of archbishop Chichele, the founder, and other benefactors of the house. From this period he divided his time between the university and the Temple. In the former he pursued his academical studies, and on the 12th June, 1745, commenced bachelor of civil law; on the 28th November, 1746, he was called to the bar. Though little known in Westminster-hall, he was actively employed, during his occasional residence at the university, in attending to its interests, and improving its interior concerns. In May, 1749, as a small reward for his services, and to give him further opportunities of advancing the interests of the college, he was appointed steward of their manors. And in the same year, on the resignation of his uncle, Seymour Richmond, Esq., he was elected recorder of the borough of Wallingford in Berkshire. April 26th, 1750, he commenced doctor of civil law, and thereby became a member of the convocation, which enabled him to extend his views beyond the circle of his own society,

to the general benefit of the university. In the summer, 1753, he took the resolution of wholly retiring to his fellowship and an academical life, still continuing the practice of his profession as a provincial council. His Lectures on the Laws of England appear to have been an early and favorite idea; for immediately after he quitted Westminster-hall, he entered on reading them at Oxford; and even at their commencement, such were the expectations formed from the acknowledged abilities of the lecturer, that they were attended by a very crowded class of young men of the first families. But it was not till 1758 that the lectures in the form they now bear were read at the university. Mr. Viner having by his will left not only the copyright of his abridgment, but other property to a considerable amount, to the university of Oxford, to found a professorship, fellowship, and scholarships of common law, Mr. Blackstone was, on the 20th of October, 1758, unanimously elected Vinerian professor, and on the 25th read his introductory lecture. His lectures were now of such established reputation, that he was invited to read them himself to his late majesty Geo. III. when prince of Wales. This he declined, in consequence of his engagements in the university; but transmitted copies of many of them for the perusal of his royal highness. It is doubtful whether the Commentaries were originally intended for the press; many imperfect and incorrect copies, however, having been taken, and a pirated edition being expected to appear in Ireland, the learned lecturer thought proper to print a correct edition himself; and in November, 1765, published the first volume, under the title of Commentaries on the Laws of England: in the course of the four succeeding years the remaining parts of this admirable work appeared. Before this period, the reputation his lectures acquired him, had induced him to resume his practice in Westminster-hall; and, in a course somewhat inverted from the general progress of his profession, he who had quitted the bar for an academic life, was sent back from the college to the bar, with a considerable increase of business. He was likewise returned to parliament, first as member for Hindon, and afterwards for Westbury in Wilts. In the celebrated Middlesex election case he drew upon himself the attacks of various persons of ability in the senate, and likewise the animadversions of Junius; which circumstances probably strengthened his aversion to a parliamentary life. On the resignation of Mr. Dunning in 1770, he was offered the place of solicitor-general, which he refused; but soon after, on the promotion of Sir Joseph Yates to a seat in the court of common pleas, accepted a seat on the bench, and on the death of Sir Joseph succeeded him. As a judge he was not inactive, and, when not occupied in the duties of that station, was generally engaged in some scheme of public utility. The act for detached houses for hard labor for convicts, as a substitute for transportation, owed its origin in a great measure to him; as well as a considerable augmentation of the judges' salaries. This respectable author and valuable man died on the 14th February, 1780, in the fiftieth year of his age.

BLACK STRAKES, a range of planks immediately above the wales in a ship's side. They are always covered with a mixture of tar and lamp-black.

BLACKTAIL, *n. s.* from black and tail. A fish; a kind of perch, by some called ruffs, or popes. See **POPE**.

BLACKTHORN, *n. s.* from black and thorn. The same with the sloe. See **PLUM**, of which it is a species.

BLACK TIN, in mineralogy, a denomination given to the tin ore when dressed, stamped, and washed ready for the blowing house, or to be melted into metal. It is brought into this state by means of beating and washing; and when it has passed through several buddles, or washing troughs, it is taken up in form of a black powder, like fine sand, and called black tin.

BLACK WADD, in mineralogy. See **MANGANESE**.

BLACKWALL (Anthony), A. M. a learned author, after completing his academical education at Cambridge, was appointed head master of the free school, and lecturer of All-hallows, in Derby, where he distinguished himself in 1706 by an edition of Theognis. He was afterwards head-master of the free school at Market-Bosworth in Leicestershire. Here he published, anonymously, A New Latin Grammar, being a short, clear, and easy Introduction of young Scholars to the Knowledge of the Latin Tongue; containing an exact account of the two first parts of Grammar. In his Introduction to the Classics, first published in 1718, 12mo. he displayed the beauties of the writers of antiquity to the understanding and imitation even of common capacities, in a concise and admirable manner peculiar to himself. But his most celebrated work, and one which is still considered as a standard book on the subject, is the Sacred Classics Defended and Illustrated; or, an Essay humbly offered towards preserving the Purity, Propriety, and True Eloquence of the Writers of the New Testament, in 2 vols. He died at Market Bosworth, April 8th, 1730.

BLACKWALL, an important hamlet of the county of Middlesex, adjoining to London, on the east side of the Thames. Here are very extensive docks and yards for shipping. The wet docks are the most capacious and best constructed of any in Great Britain. Vast quantities of nuts and fragments of trees were found here in digging some of them in 1790. See **DOCKS**.

BLACKWATER, a river of England, in the county of Essex, which rises from Saffron Walden, in the north-west part of the county, and is at first a continuation of the river Pant. Having passed Bocking, Coggeshall, and Kelvedon, it joins the Chelmer at Malden, and flows into an estuary called Blackwater Bay, celebrated for the quality of its oysters. 2. A river of England, which rises near Cranbourn, in the county of Dorset, and joins the Stour near its mouth. 3. A river of Ireland, which rises on the confines of Kerry, and running through the counties of Cork and Waterford, falls into the sea at Youghall Bay. Also, 4, a river of Ireland, which runs into Lough Neagh, five miles N.N.E. of Charlemont. 5. A river of Virginia, which runs into the Atlantic at

Black Bay. Long. $76^{\circ} 10' W.$, lat. $36^{\circ} 30' N.$ 6. A river of Maryland, which runs into the Chesapeake. Long $76^{\circ} 15' W.$, lat. $38^{\circ} 24' N.$ Also, 7, a river of New Hampshire, which joins the Merrimack. Long. $71^{\circ} 38' W.$, lat. $43^{\circ} 24' N.$

BLACKWELL (Alexander), a native of Scotland, who, not succeeding in his own country as a physician, endeavoured to establish himself as a printer in London. Here he also failed, then went to Sweden and practised physic; but engaging in a conspiracy with count Tessin, he was tortured and beheaded in 1747. The British ambassador was recalled the same year; among other reasons, for the imputations thrown on his Britannic Majesty in the trial of Dr. Blackwell. Soon after which appeared a genuine Copy of a Letter from a Merchant in Stockholm, to his Correspondent in London, containing an impartial Account of Dr. Blackwell, his Plot, Trial, &c.; in this work he is said to have denied on the scaffold the crime for which he died.

BLACKWELL (Elizabeth), wife of the preceding, published a curious Herbal, containing 500 cuts of useful plants, taken from the life, of which an improved edition, with the text in Latin and German was published at Nuremberg, in folio, 1750—1760; and at Leipzig, in 8vo. 1794.

BLACKWELL (Thomas), brother of the preceding Alexander Blackwell, was born in 1701, and died in 1757. He wrote, 1. Enquiry into the Life and Writings of Homer, 1735; and again in 1736. 2. Proofs of the Enquiry, &c. 1736. 3. Letters concerning Mythology, 8vo. 4. Memoirs of the Court of Augustus, 2 vols. 4to. 1755; and a third volume, which was posthumous.

BLAD'DER, *v. & n.* Ang.-Sax. blædr, Germ. *blatter*; Dutch, *bladder*; Swed. *bladra*; from the Ang.-Sax. blæd, wind, a vessel made of elastic materials, and capable of distension by air or liquid of any kind; that vessel in the body which contains the urine; a blister raised on the skin; a pustule, &c. any thing puffed or inflated.

That huge great body which the giant bore
Was vanquished quite, and of that monstrous mass
Was nothing left, but like an empty bladder was.

Spenser.

I have ventured,
Like little wanton boys that swim on bladders,
These many summers in a sea of glory,
But far beyond my depth: my highblown pride
At length broke under me.

Shakspeare.

A bladder but moderately filled with air, and strongly tied, being brought near the fire, grew exceeding turgid and hard; but being brought nearer to the fire, it suddenly broke, with so loud a noise as made us for a while after almost deaf.

Boyle.

The contents of the gall-bladder are not exactly of the same kind as what passes from the liver through the direct passage.

Paley's Theology.

BLADDER, in anatomy, a thin expanded membranous body, found in several parts of an animal, serving as a receptacle of some juice, or of some liquid excrement; from whence it takes various denominations, as urine-bladder, gall-bladder, &c. Below a certain magnitude they are more usually denominated in the diminutive, vesicles, or vesiculæ. See AIR-BLADDER, and AIR-VESSELS.

BLADDER, by way of eminence, is a large vessel, which serves as a receptacle of the urine of animals, after its secretion from the blood in the kidneys. This is sometimes also called, by way of distinction, the urinary bladder, vesica urinaria. The bladder is situated in the pelvis or the abdomen; in men immediately on the rectum; in women on the vagina uteri. Though the urinary bladder be naturally single, yet there have been instances of nature varying in this particular. The bladder of the famous Casaubon, upon dissecting his body after his death, was found to be double; and in the Philosophical Transactions, we have an account of a triple bladder found in the body of a gentleman, who had long been ill, and no one could guess the cause. The urinary bladders of brutes are differently contrived from the human bladder, and from each other, according to the structure, economy, and manners of living of each creature. See ANATOMY.

BLADDER, AIR. See AIR-BLADDER.

BLADDER, GALL. See ANATOMY.

BLADE, } Blade, *n. s.* Sax. blæð,
BLA'DING, } blæð, Fr. *bled*. The spire of
BLA'DED, } grass before it grows to seed;
BLA'DY, } the green shoots of corn which
BLADE'ONE. } rise from the seed. This seems

to be the primitive signification of the word blade; from which, I believe, the blade of a sword was first named, because of its similitude in shape; and, from the blade of a sword, that of other weapons or tools. But why, it may be asked, was this term applied to grass originally. Blat is a corruption of plat, and plat signifies flat,—the shoulder-blade, then, will be the flat-bone of the shoulder. The spire of grass is flat: but we are accustomed to associate with the term blade not only the flatness, but the sharpness of the spear and the sword. Etymology is, after all, but a very conjectural species of knowledge. Blade is metaphorically applied to any who pretends to the sharpness or brightness of a sword blade; thus used it is an expression of contempt.

He sought all round about, his thirsty blade
To bathe in blood his faithless enemy.

Færic Queen.

For it is a kind of grasse with a stalk, as big as a great wheaten reed, which hath a blade issuing from the top of it, on which, though the cattle feed, yet it groweth every day higher, until the top be too high for an ox to reach.

Sir Francis Drake Revived.

When Phœbe doth behold
Her silver visage in the watery glass,
Decking with liquid pearl the bladed grass.

Shakspeare.

Anon comes Pyramus, sweet youth, and tall,
And finds his trusty Thisby's mantle slain.
Whereat, with blade, with bloody blameful blade,
He bravely broached his boiling bloody breast;
And, Thisby tarrying in mulberry shade,
His dagger drew and died.

Id.

Boldly assault the Necromancer's hall;
Where, if he be, with dauntless hardihood,
And brandish'd blade, rush on him, break his glass,
And shed the luscious liquor on the ground.

Milton. Comus.

You'll find yourself mistaken, Sir, if you'll take upon you to judge of these *blades* by their garbs, looks, and outward appearance. *L'Estrange.*

If we were able to dive into her secret recesses, we should find that the smallest *blade* of grass, or most contemptible weed, has its particular use. *Swift.*

Then, turning about to the hangman, he said, Dispatch me, I pri'thee, this troublesome *blade*. *Prior.*

Be his this sword, whose *blade* of brass displays A ruddy gleam, whose hilt a silver blaze. *Pope.*

He fell most furiously on the broiled relics of a shoulder of mutton, commonly called a *bladebone*. *Pope.*

Stir not—lest even to thee perchance Some erring *blade* or ball should glance.

Byron. Bride of Abydos.

BLADE, in botany, that part of a plant which arises out of the concave of the sheath, and, at the top, usually divides into two parts, which are covered with globules of the same nature as those of the apices, but not so copious. See **BOTANY**.

BLADE, in commerce, a thin slender piece of metal, either forged by the hammer or run and cast in moulds to be afterwards sharpened to a point, edge, or the like. Sword blades are made by the armourers, knife-blades by the cutlers, &c. The English and Damascus blades are most esteemed. Among the French, those of Vienne have the preference. The conditions of a good blade of a small sword are, that it be light and tough, apter to bend than break. When it will stand in the bend, it is called a poor man's blade.

BLADE-BONE. See **ANATOMY**.

BLADEN, a county of North Carolina, in the district of Wilmington, bounded on the south by Brunswick, on the north by Cumberland, on the east by New Hanover, on the west by the state of South Carolina, and on the north-west by Robeson county. The chief town is Elizabeth.

BLADEN (Martin), a lieutenant-colonel under the duke of Marlborough, was afterwards made a lord of trade, and employed in various civil capacities. He is principally known as the translator of Cæsar's Commentaries. Bladen was the uncle of Collins the poet.

BLADENSBURG, a post town of Maryland, in Prince George's county, on the east side of a branch of the Potomac, about seven miles above Washington. It is thirty-eight miles south-west by south of Baltimore, and 140 south-west by west of Philadelphia.

BLADHIA, in botany, a genus of plants of the class pentandria, and order monogynia. The generic character is, CAL. five-partite: COR. rotata, fivefid: BERRY one seeded: SEED arillate. Four species are described, all natives of Japan.

BLÆRIA, in botany, a genus of the tetrandria monogynia class of plants. Its characters are: CAL. quadripartite: COR. quadrifid: STAM. inserted in the receptacle, and the fruit a capsule, with four cells, containing many seeds. There are two species.

BLÆSLING, in zoology, a synonyme of the greater coot, or fulica atenia. See **FULICA**.

BLÆSUS, among medical writers, the same with balbus; a stammerer or lisper.

BLAFART, in commerce, a small coin cur-

rent at Cologne, worth something more than a farthing of our money.

BLAGRAVE (John), was the second son of John Blagrave, Esq. of Bulmarsh-court in Berkshire, and descended of an ancient family. Being sent to Oxford, he applied himself chiefly to the study of mathematics; but without taking any degree. In his mansion near Reading, he passed most of his days, and died there in 1611. Among other charities, he left £10 to be annually disposed of in the following manner: On Good-Friday, the church-wardens of each of the three parishes of Reading send to the town-hall 'one virtuous maid, who has lived five years with her master;' there, in the presence of the magistrates, the three throw dice for the £10. The losers are returned with a fresh one the year following, and again the third year, till each has had three chances. His works are, 1. A Mathematical Jewel, London 1585 fol. 2. Of the Making and Use of the Familiar Staff, London 1590, 4to. 3. Astrolabium Uranicum Generale, London, 1596, 4to. 4. The art of Dialling, London, 1609, 4to.

BLAGRAVE (Joseph), a descendant of the same family, was born at Reading about the year 1609, and died at the age of seventy, leaving behind him an Introduction to Astrology, of which art he was a noted professor. He also wrote the Astrological Practice of Physic, printed in 8vo. a book on surgery, and a supplement to Culpepper's Herbel.

BLAIN', *n. s.* Sax. blegene. Dut. *bleyne*; a pustule; a botch; a blister.

Itches, *blains*,

Sow all the Athenian bosoms, and the crop

Be general leprosy.

Shakspeare.

Botches and *blains* must all his flesh imboss,

And all his people.

Milton.

When'er I hear a rival named,

I feel my body all inflamed;

Which, breaking out in boils and *blains*,

With yellow filth my linen stains. *Swift.*

BLAIN, among farriers, a distemper incident to horses, being a certain bladder growing on the root of the tongue, against the wind pipe, which swells so as to stop the breath. See **FARRIERY**.

BLAIR, (Hugh), an eminent divine and critic of the eighteenth century, was descended from the Blairs of Blair, in Ayreshire. His great-grandfather, Robert Blair, was a strenuous opposer of Episcopacy in Scotland. The subject of this memoir was the son of Mr. John Blair, a respectable merchant, and one of the magistrates of Edinburgh. He was born on the 7th of April, 1718, and obtained his education at the high school. In the year 1739 he received the degree of M. A. He was licensed to preach by the presbytery of Edinburgh on the 21st of October, 1731. Upon the 23d of September, 1742, he was ordained minister of Colessie in Fifeshire. In 1743 he was admitted second minister of the Cannongate; he removed to lady Yesters, within the city, on the 4th of October, 1754; and from thence to the high church on the 15th of June, 1758. In 1757 the university of St. Andrews presented him with the degree of D.D. In 1755 his friends prevailed on him to deliver a course

of lectures on Rhetoric and Belles Lettres. This considerably raised his reputation, already of the first rank as a preacher, and in 1760 the town council of Edinburgh appointed him professor of Rhetoric in the university. In 1762 his majesty was pleased to confer a salary upon the office of £70 per annum. Dr. Blair first proposed, and carried into effect a subscription, to enable Mr. Macpherson to collect what remained of Ossian's poems, and wrote a dissertation to establish their authenticity. After reading his lectures in the university more than twenty years, he was induced to publish them in 1783. But the composition of sermons, and pulpit eloquence, had always been his chief object of pursuit, and the basis on which he wished to rest his fame. Crowded audiences, of every rank in life, had long decided the public opinion of his merits as a preacher. He even rendered religion fashionable among many in the higher ranks by whom it had formerly been despised. In 1777, therefore, he published a volume of sermons, which required a most extensive and rapid circulation, and was succeeded by a second volume in 1779. In 1780 he obtained a pension of £200 a year, at the particular request it is said of her late majesty. His growing infirmities, in 1783, induced him to retire from the regular discharge of his professional duties, and an addition was now made of £100 a year to his pension. Other volumes of his sermons have been published since his decease. Their circulation has been unparalleled, and they have been translated into most of the languages of Europe. With a taste nice and discriminating, a judgment clear and well informed, language chaste and perspicuous, Dr. Blair attains a happy medium between the declamatory addresses of the French preachers, and the abstruse metaphysical style of many of our English divines. Every thing he discusses is made attractive, and our moral feelings are warmed and invigorated by the most exquisite and imperceptible art: but some reasonable objections have been taken to the singular absence of principles, peculiarly *religious*, in his sermons. 'Scriptural doctrines' says a valuable contemporary, 'do not always appear to have been illustrated by him with sufficient attention, nor Scriptural motives to have obtained a place due to their importance; and too strong a bias may perhaps be observed, in his writings, in favor of moral discussions, abstracted from the consideration of the truths inculcated by Revelation.' Dr. Blair died on the morning of Saturday the 27th of December, 1800, in the eighty-third year of his age, and the fifty-ninth of his ministry.

BLAIR (John), L. L. D. and F. R. S. an eminent chronologist, was educated at Edinburgh; and was for some time usher to a school in Hedge Lane, London. In 1754 he gave the world that valuable publication, *The Chronology of the History of the World, from the Creation to the year 1753*. Illustrated in *LVI. Tables*. This volume, in which he is said to have been assisted by his cousin Dr. Hugh Blair, is dedicated to lord chancellor Hardwicke; it soon established his fame, and produced a happy change in his destiny. In January 1758, he was elected F. R. S. and in

1761, F. S. A. In 1756 he published a second edition of his tables. In September 1757 he was appointed chaplain to the princess Dowager of Wales, and mathematical tutor to the duke of York; and in 1761 obtained a prebendal stall at Westminster, the vicarage of Hinckley, and the rectory of Burton Coggles in Lincolnshire. In September 1763 he attended his royal pupil on a tour to the continent; visited Lisbon, Gibraltar, Minorca, and the principal cities in Italy, and several parts of France; and returned in August 1764. In 1768 he annexed to the new edition *Fourteen Maps of Ancient and Modern Geography*, for illustrating the *Tables of Chronology and History*, and a *Dissertation on the progress of Geography*. In March, 1771, he was presented to the vicarage of St. Bride's in London. In April, 1776, he resigned St. Bride's, and was presented to the rectory of St. John in Westminster. He died June 24th 1782. A course of his *Lectures on the Canons of the Old Testament* were published by his widow.

BLAIR (Robert), a Scottish divine and poet, was born in 1701, and died in 1747. He was the author of the well-known poem entitled *The Grave*, first printed in 1743, and since frequently reprinted.

BLAISE, a river of France in the department of Eure and Loire, formerly giving name to the Blaisois, a *ci-devant* province of France, bounded on the north by Beauce, on the east by the Orleannois, on the south by Berry, and on the west by Touraine.

BLAISE (St.), a martyr who suffered in the fourth century, under Dioclesian, by command of Agricola, governor of Cappadocia. He is said to have had his flesh torn with iron combs previous to his being beheaded, which seems to be the cause for the respect paid to his memory by wool-combers.

BLAISE (St.), KNIGHTS OF, a military order instituted by the kings of Armenia. Justinian calls them knights of St. Blaise and St. Mary, and places them not only in Armenia, but in Palestine. The precise year of their institution is not known.

BLAIZE, CAPE, a promontory on the coast of West Florida, in the Gulf of Mexico, which separates the bay of Apalache on the east from that of St. Joseph; into which last it turns in the shape of a shepherd's crook.

BLAKE, (Robert), a famous English admiral, born in August 1589, at Bridgewater in Somersetshire, where he was educated. He went from thence to Oxford, in 1615, and in 1617, he took the degree of B. A. In 1623 he wrote a copy of verses on the death of Camden, and soon after left the university. The puritan party returned him member for Bridgewater, in 1640; and he served in the parliament army with great courage during the civil war: but when the king was brought to trial, he highly disapproved the measure as illegal, and said frequently, 'he would as freely venture his life to save the king, as ever he did to serve his parliament.' In 1648-9 he was appointed, in conjunction with colonel Dean and colonel Popham, to command the fleet; and soon after blocked up prince Maurice and prince Rupert in Kinsale

harbour. On their getting out, Blake followed them from port to port : and at last attacked them in that of Malaga, burnt and destroyed their whole fleet, two ships only excepted; the Reformation, in which prince Rupert himself was, and the Swallow, commanded by prince Maurice. In 1652 he was constituted sole admiral ; when he defeated the Dutch fleet commanded by Van Tromp, Ruyter, and De Wit, in three several engagements, in which the Dutch lost eleven men of war, thirty merchant ships, and 15,000 men. Soon after, Blake, and his colleagues, with a grand fleet of 100 sail, stood over to the Dutch coast; and forced the enemy into the Texel, where they were kept some time by Monk and Dean, while Blake himself sailed northward. At last, however, Tromp escaped and drew together a fleet of 120 men of war. On the third of June, therefore, Dean and Monk came to an engagement with the enemy off the North Foreland, with indifferent success : but the next day Blake coming to their assistance with eighteen ships, gained a complete victory. In April 1653, Cromwell having turned out the parliament, and assumed the supreme power, Blake is said to have observed on this occasion to his officers, 'It is not for us to mind state affairs, but to keep foreigners from fooling us.' In November 1654 Cromwell sent him with a strong fleet into the Mediterranean, with orders which he well executed to support the honor of the English flag. In the beginning of December, Blake came into the road of Cadiz, where he was treated with all imaginable respect : a Dutch admiral would not hoist his flag while he was there ; and his name was now so formidable, that a French squadron having stopped one of his tenders, which had been separated from Blake in a storm, the admiral, as soon as he knew to whom it belonged, sent for the captain on board, and drank Blake's health before him with great ceremony, under a discharge of five guns. The Algerines were so much afraid of him, that, stopping the Sallee rovers, they obliged them to deliver up what English prisoners they had on board, and sent them freely to Blake, to purchase his favor. This, however, did not prevent his coming on the 10th of March before Algiers, and sending an officer on shore to the dey to demand satisfaction for the piracies committed on the English. The dey conciliated him by an apology, accompanied with a large present of fresh provisions, and Blake leaving Algiers, sailed on the same errand to Tunis, where the dey returned for answer a defiance and denied him the liberty of taking in fresh water. 'Here, said he, are our castles of Goletta and Porto Ferino ; do your worst.' Blake now, therefore, deliberately demolished these fortresses, and sent nine of the enemy's own vessels, which he found in the harbour, up to the town as fire-ships. This daring action spread the terror of his name through Africa and Asia. From Tunis he sailed to Tripoli, and to Malta, and obliged the respective governments to restore the effects taken by privateers from the English, and so established the glory of the English name, that most of the princes and states of Italy thought fit to pay their compliments to the protector, by solemn embassies.

He passed the next winter either in lying before Cadiz, or in cruising up and down the straits ; and was at his old station, at the mouth of that harbour, when he received information that the Spanish plate fleet had put into the bay of Santa Cruz, in the island of Teneriffe. Upon this he weighed anchor, with twenty-five men of war, on the 13th of April 1657 ; and on the twentieth rode off the bay of Santa Cruz, where he discovered sixteen Spanish ships, in the form of a half-moon. Near the mouth of the haven stood a strong and well defended castle ; besides which there were seven forts round the bay, joined by a line of communication manned with musketeers. To make all safe, Don Diego Diaques, general of the Spanish fleet, caused the smaller vessels to be moored close along the shore ; while the six large galleons stood farther out at anchor, with their broadsides towards the sea. Notwithstanding these advantages possessed by the enemy, and the strength of the place, Blake burnt or sunk all the ships of the Spanish fleet, and by a fortunate change of wind came out without loss. It is here worthy of remark, that Blake's own brother having failed in some part of duty during this service, he immediately removed him from his command, although he still behaved to him with fraternal affection. Finding a complicated disorder of a dropsical and scorbutic kind, now making rapid progress, he sailed for England, and amidst his frequent enquiries for the sight of the English coast, expired while the fleet was entering Plymouth-sound, August 27th, 1657. The protector ordered him a magnificent public funeral in Westminster Abbey, whence, however, his body was pitifully expelled at the Restoration ; and Englishmen suffered a prince, who himself betrayed their country, to remove this brave admiral's bones, as those of a rebel, to St. Margaret's church-yard.

BLAKEA, in botany, a species of the class dodecandria monogynia : with a calyx composed of six leaves below, and entire above ; six petals, and a six-celled polyspermous capsule. There is only one species.

BLAME, *v. & n.*

BLAM'ING,

BLAMA'BLE,

BLAM'ABLENESS,

BLAME'ABLY,

BLAME'FUL,

BLAME'LESS,

BLAME'LESSLY,

BLAME'LESSNESS,

BLA'MER,

BLAME'WORTHY,

BLAME'WORTHINESS.

Dut. *blamen.* Fr. *blasmer.* Ital. *biasmare.* Probably from the Greek, βεβλαμμαι, perfect of the verb βλαππω, to hurt, signifying to deal harshly with.—Blame is the mildest daughter in the severe family of censure ; to blame, expresses less than to reprove ; we simply charge with a fault in blaming ; but in reproving, severity is mixed with the charge ; reproach expresses more than either ; it is to blame acrimoniously ; to blame is simply to find fault with ; to pass an unfavorable judgment upon ; it is, for the most part, the act of a superior.

Immortal God ! that savedst Susanne
Pro false *blame*, and thou merciful mayde,
Mary, I mene, daughter to saint Anne,
My socour be, or elles shall I die.

Chaucer.

He wondered at her wisdom evenly rare,
Whose like in women's wit he never knew;
And when her courteous deeds he did compare,
Gan her admire, and her sad sorrow rue,
Blaming of fortune, which such troubles threw,
And joyd to make proofe of her cruelty
On gentle dame, so hurtlesse and so trew.

Spenser.

The soveraigne of the seas he *blames* in vain,
That once sea beaten will to sea againe.

Id.

Our power

Shall do a courtesy to our wrath, which men
May *blame*, but not controul.

Shakespeare.

I unspeak mine own detraction; here abjure
The taints and *blames* I laid upon myself,
For strangers to my nature.

Id.

Blunt-witted lord, ignoble in demeanour,
If ever lady wronged her lord so much,
Thy mother took into her *blameful* bed
Some stern untutored churl.

Id.

Although the same should be *blameworthy*, yet this
age hath forborn to incur the danger of any such
blame.

Hooker.

In me you've hallowed a pagan muse,
And denized a stranger, who, mistaught
By *blamers* of the times they marred, hath sought
Virtues in corners.

Donne.

Fair angel, thy desire which tends to know
The works of God, thereby to glorify
The great workmaster, leads to no excess
That reaches *blame*, but rather merits praise.

Milton.

Porphyrus, you too art did tempt your fate;
'Tis true, your duty to me it became;
But, praising that, I must your conduct *blame*.

Dryden.

Each finding, like a friend,
Something to *blame*, and something to commend.

Pope.

In arms, the praise of success is shared among
many; yet the *blame* of misadventures is charged
upon one.

Hayward.

They lay the *blame* on the poor little ones, some-
times passionately enough, to divert it from them-
selves.

Locke.

It is the wilful opposing explicit articles, and not
the not believing them when not revealed, or not
with that conviction, against which he cannot *blame-
lessly*, without pertinacy, hold out, that will bring dan-
ger of ruin on any.

Hammond.

BLAMONT, or BLANBENBERG, a town of
France, in Lorraine, the head of a canton in the
department of the Meurthe. It is seated on the
Vezouse, sixteen miles east of Luneville, and
thirty-two E. S. E. of Nancy. Population 1860.
Long. 6° 52' E., lat. 48° 40' N.

BLANC, MOUNT, so called from the mountain,
was a French department from 1792 till 1815.
It consisted of the Duchy of Savoy. It was bound-
ed on the west by the Rhone, which separates it
from the department of the Ain; on the north by the
lake of Geneva; on the east by the Alps, which
divide it from the Valais and Piedmont; and on
the south by the departments of the Upper Alps
and Isere. It was eighty-three miles in length
from west to east, and sixty-seven in breadth
from north to south; though some geographers make it
ninety miles long and eighty broad. The surface
is hilly, and the air cool, but the soil is fertile;
and those mountains which are not covered with
snow in winter abound with pastures that feed
vast numbers of cattle. The lakes swarm with

fish, and the woods with stags, fallow deer, roe-
bucks, wild boars, marmots, hares, partridges
wood-cocks, pheasants, &c. The inhabitants are
sober and industrious. The principal rivers are
the Arc, the Isere, and the Arve. Chambery is
the capital. This was the ancient patrimonial
inheritance of the dukes of Savoy, before they
became kings of Sardinia. For its history, be-
fore its annexation to France, see SAVOY.

BLANC, MOUNT; Fr. Mont Blanc, i. e. the
white mountain; a stupendous mountain of
France, in the above department, the highest
elevation of the Alps, and, indeed, of Europe.
Its mantle of circumvenient snow gives it this
name.

As seen from the Col de Balme, and the
vale of Chamouni, the summit of Mont Blanc
seems to be of a roundish form, its surface smooth
and covered with snow, its whole appearance
uniting beauty with grandeur, and its towering
head rising majestically above the surrounding
mountains; but, when seen from the valley of
Aosat, its sides are less completely covered with
snow, its aspect is more rugged and dark, and the
prospect which it presents partakes more of the
wild and terrific. It rises imperceptibly from
amidst the numerous irregular mountains which
bound the vale of Chamouni, then terminates
rather abruptly in a point or top called Aiguille
de Goute, or Dôme de Gouté. Beyond this
height, with a considerable hollow between, it
forms another mount, called by some Little Mont
Blanc, or, more properly, the Middle Dome.
From this station it gradually sinks again into a
concave surface, in the midst of which is a small
pyramid of ice; and then reaches its highest point
of elevation, which is in the shape of a compressed
hemisphere, and is called from its form La Bosse
du Dromedaire. Upon a nearer inspection, the
summit of this gigantic mountain is found to be
a very narrow ridge, lying nearly in a horizontal
direction, resembling the roof of a house; and, at
its west end particularly, scarcely sufficiently
broad to admit of two persons walking abreast.
The snow which covers the top is encrusted with
ice, of a firm consistence, but penetrable by a
staff; and beneath this icy surface, especially on
the declivities of the summit, is discovered a soft
dusty snow without any cohesion.

Strata of granite form the highest rocks of
Mont Blanc, running parallel to one another,
and nearly in a vertical direction. Those on the
east side are mixed with steatites; those on the
south with schœrl and lapis corneus; and some
of them, about 150 yards below the summit,
have the appearance of having been shivered
with lightning. According to M. De Luc, its
height above the level of the sea is 2391½ French
toises, or 15,304 English feet; according to Sir
George Shuckburgh 15,662 feet; and, according
to other observations, 15,680 feet, or nearly three
English miles above the level of the sea.

M. De Saussure observed the silene acaulis,
or moss campion, in flower, at the elevation of
11,392 feet above the sea; still higher, on the
most elevated rocks, he found the lichen sulphu-
reus and lichen rupestris of Hoffman; and, on
the summit, he noticed two butterflies on the
wing, which he supposed to have been driven

thither by the wind. On the top of Mont Blanc, on the third day of August, Reaumur's thermometer stood, in the shade, at $2\frac{1}{2}$ below the freezing point, or 27 of Fahrenheit; while, at the same time, at Geneva, it was found at 22·6 or 82 of Fahrenheit, which gives a difference of nearly 25 degrees of Reaumur, or 55 of Fahrenheit, between the temperature of the atmosphere at both places. De Luc's barometer fell to $16\cdot014\frac{40}{1000}$, while it stood at Geneva at $27\cdot2\frac{055}{1000}$, a difference of 11·2, with a small fraction. By experiments with the hygrometer the air was found to contain six times less humidity than that of Geneva; and to this extreme dryness of the atmosphere, the burning thirst, which Saussure and his companions experienced in the extraordinary elevation, is supposed to have been owing. While fifteen or sixteen minutes are sufficient to boil water at Geneva, and fourteen or fifteen at the sea side, it requires half an hour on the top of this mountain. By experiments with the electrometer, the electricity of the air was found to be positive, and the balls diverged only three lines; and by experiments with lime water, and the caustic alkali, atmospheric acid, or fixed air, was detected in the atmosphere. Owing to the extreme rarefaction of the air, sounds were remarkably feeble, and the report of a pistol discharged on the summit, did not exceed that of a small Chinese cracker in a room. From the same cause respiration becomes exceedingly difficult at so immense an altitude; and it was found that the pulses of three persons which beat at Chamouni, in a state of repose, 49, 60, and 72, were increased, on the summit of Mont Blanc, to 98, 112, and 100.

A sketch of the adventurous attempts to ascend this noble mountain may not be uninteresting to the reader. The first adventurer upon this arduous task was M. Couteran, who took the three guides of Chamouni, Michael Paccard, Victor Tissay, and Marie Coutet. They set out from the priory about eleven o'clock in the evening, on the 13th of July 1776; and after spending fourteen hours in surmounting many dangerous ascents, crossing valleys of ice, and traversing plains of snow, reached the top next to Mont Blanc, about 13,000 feet above the Mediterranean. They at first imagined themselves to be within a league of its summit; but soon perceived that it would require four hours more to reach it; and as the day was advanced, and the vapors gathering into clouds, they were obliged, with regret, to relinquish their enterprise; and, after a journey of twenty-two hours, arrived at Chamouni about eight o'clock in the evening.

The indefatigable Bourrit was the next traveller, who, after repeated unsuccessful attempts, departed from Bionasay on the 11th of September 1784, accompanied by six guides, and was scaling, as he expressed it, the rampart of Mont Blanc, when he was so extremely affected by the intensity of the cold as to be unable to proceed. But two of his guides, Marie Coutet, and Francis Guidet, having gone before their company, ascended to the dome of Gouté; passed the middle dome, and walked along the ridge between that and the summit, as far as some high rocks, which appear from the vale of Chamouni like small points in

the snow; but the approach of night compelled them to return.

On the 4th of September, 1785, Marie Coutet, and James Balmat, reached a place under a rock at a considerable elevation, where they passed the night; and setting out before sun-rise, passed the dome of Gouté, and were proceeding towards the summit, when a violent storm of hail obliged them to desist. On the 13th Messieurs de Saussure and Bourrit, with twelve guides, left Bionasay, passed the night at a hut, which they had ordered to be constructed, about 7808 feet above the level of the sea, and reached the dome of Gouté next morning without much difficulty; but a fresh fall of snow rendered farther progress impracticable. In July, 1786, six guides of Chamouni failed in another attempt; but James Balmat, one of their number, having been separated from his companions, passed the night in a spot above the dome of Gouté, more than 12,000 feet above the level of the sea; and, having reconnoitred the situation next morning, observed a place of more easy access than any that had hitherto been attempted. On his return to Chamouni he communicated his observation to Dr. Paccard, a physician of the place, who attended him during a severe indisposition, the effect of the cold and fatigue to which he had been exposed; and, in gratitude for that gentleman's attendance, engaged to conduct him to the summit of the mountain. They set out from Chamouni on the 7th of August, spent the night on the mountain of La Côte; at three in the morning pursued their route to the dome of Gouté; passed under the middle dome towards the east, along the ridge which is seen from Geneva, and which lies on the left of the summit. Here Dr. Paccard was almost deterred by the cold and fatigue from pursuing the enterprise; but encouraged by Balmat to proceed, and frequently walking sideways to shelter their faces from the piercing wind, they at length, about six o'clock in the afternoon, and after an ascent of fifteen hours, attained the summit of Mont Blanc. They remained about half an hour on this memorable spot, where the cold was so intense as to freeze the provisions in their pockets, congeal the ink in their inkstands, and sink the mercury of Fahrenheit's thermometer to 18½ degrees; their faces were excoiated, their lips swelled, and their sight greatly debilitated by the reflexion of the snow.

On the 13th of August, 1787, M. de Saussure set out from Chamouni, accompanied by eighteen guides, and provided with a tent, mattresses, philosophical instruments, and all necessary accommodations. They passed the first night on the top of the mountain La Côte; encamped at four o'clock in the following afternoon, about 12,762 feet above the level of the sea; and next morning pursued the ascent in places frequently so steep that the guides were obliged to hew out steps with a hatchet. After a very slow progress, and frequent halts for breath, they reached the summit about eleven o'clock in the forenoon; where they remained four hours and a half, enjoying a most sublime and extensive prospect, and making a variety of useful and interesting experiments. Here they observed the surround-

ing mountains, not in regular lines and continued ridges, as they appear when viewed from the plain, but in the most irregular groups and insulated masses; connected indeed at their bases, yet completely detached from each other, distinct in their forms, and separated at their summits. In this elevated station they experienced great difficulty of respiration, which was increased by the slightest exertion, by a stooping posture, and by the use of wine or brandy; were kept in a state of continued fever, and tormented with a burning thirst; felt no appetite for food, no relish for strong liquors, no relief in any thing but in draughts of fresh water. About two o'clock in the afternoon they began to descend; and arrived next morning, without any accident, at the valley of Chamouni. On the eighth of August, a few days after Saussure's expedition, Mr. Beaufoy, an English gentleman, succeeded in a similar attempt; but, on account of the enlargement of the chasms in the ice, it was accomplished with greater difficulty. See *Core's Travels in Switzerland*, vol. 2. *Saussure's Voyages dans les Alpes*, vol. 4.

The following account of an attempt to reach the summit of Mont Blanc in 1820 was supplied by one of the gentlemen of the party to the *New Monthly Magazine*, and is interesting as containing one of the best descriptions of the avalanche of these regions with which we are acquainted. The writer, Mr. Dornford, says it is the only original account of the attempt yet published.

'About the middle of last August I arrived at Geneva, accompanied by my friend H—, of Brazenose, whom I had fallen in with at Berne, and who was, like myself, devoting a part of the long vacation to a Continental tour. I had, before leaving England, set my heart upon ascending Mont Blanc, and found no difficulty in prevailing on my companion, who had already made the tour of the greater part of Switzerland, to accompany me. Having called on a gentleman of Geneva, to whom I had an introduction, with a view of making the necessary enquiries, I learnt from him that a small party were then on the point of setting out with the same intention. I lost no time in finding them out, and proposing to share in their undertaking; and the following afternoon, August 16, we set off together, in a hired calèche, for the valley of Chamounix. Our party consisted of four persons. Our new acquaintances were Le Chevalier Hamel, a Russian, then employed by the emperor in making some philosophical observations in the neighbourhood, and M. Sellique, an optician of Geneva, and native of Paris, a man of considerable attainments in various branches of natural philosophy. His grand object in accompanying us was to make trial of a new barometer, of his own construction, in measuring the height of Mont Blanc, the accuracy of some former observations for the same purpose having been recently called in question. Dr. Hamel had already made, ten days before, an unsuccessful attempt to reach the summit by a different route, being the same which Saussure attempted in 1785.

'At length, the long-expected morn arrived: at four o'clock we were summoned from our

beds, where we had not enjoyed much sleep, and about five we all set out on foot, making with the guides a party of sixteen. These latter were each furnished with a knapsack pretty well loaded, in which were placed provisions for three days for the whole party, mathematical instruments, additional clothing for ourselves on the following day, four blankets, &c.

'Our caravan assumed a most romantic appearance; the costume of the guides, each with a French knapsack, and one or two with old pelisses, being decidedly military. It reminded me strongly of a party of guerillas in the Pyrenees, where uniformity either in dress or appointments was considered as an unnecessary refinement. We had each a large straw hat tied under the chin, and a spiked-pole, about eight feet long, in our hands. Besides this, our shoes were furnished with short spikes at the heels to assist us in the descent. We were clothed as lightly as possible, that the motion of our limbs might not be impeded, for we were told to expect a march of eleven or twelve hours, the latter half of which was to be spent in climbing.

'In about two hours we reached the last human abode, being a chalet or summer-cottage, inhabited by François Favret, who had been one of Saussure's guides, and whose son was in our party. The veteran mountaineer, Favret, accompanied us about three hours higher up to the edge of the glacier, to carry his son's knapsack, and then followed us with his eyes till we disappeared in one of the awful fissures, with which it is everywhere intersected. We had left the wood behind us just before we reached the chalet, and the ascent was now considerably steeper. We trod for some time a very precarious path along the brink of an awfully deep and precipitous ravine, where I occasionally felt some tendency to dizziness. This feeling, however, I concealed so successfully, that I believe neither the guides nor my companions had any suspicion of it; and by following Saussure's advice, in the published account of his ascent, and fixing my eyes steadfastly upon the precipice, I gradually accustomed myself to the view, and was soon enabled to pursue my path with the greatest confidence. By the time we reached the Pierre de L'Echelle, a large round stone, where we halted for breakfast, on the edge of the glacier, I felt quite at home, and resigned myself completely to the delightful sensations which our situation inspired. In a cavern below this rock our guides found a ladder, which they had left there the year before, and which they employ in the passage of the Glacier de Bossons, now close before us. It was about half-past nine when we reached this resting place, and we felt disposed to do justice to a couple of cold fowls, which were produced from the knapsack of one of the guides. These were soon despatched, together with a bottle of light French wine, and in twenty-five minutes we resumed our march.

'Five minutes march from the Pierre de L'Echelle brought us to the edge of the Glacier de Bossons, and we entered immediately on a track, which baffles all description. The Mer de Glace, which has been compared to a sea sud-

denly congealed in the midst of a storm, cannot, our guides assured us, enter into competition with it. The fissures are so frequent, so wide, so deep, the different views, varying every instant, which the scenery presents, are so awful, so fantastic, that no adequate idea of them can be presented to the mind by the most eloquent pen. At one time the traveller finds himself denied apparently all further progress by an immense precipitous tower of ice: this is surmounted by a stair-case of notches, which one of the guides cuts in the ice with a hatchet, which he carries for that purpose. Then he must descend into an awful chasm, from which he must emerge in the same manner. Again he meets with fissures, called by the guides crevasses, of unknown depth, which are crossed by laying the ladder over them, and passing on all fours. If the crevasse be too wide for the length of the ladder, the traveller must descend down one side, and re-ascend the opposite one, which is the most formidable method of all. On one or two occasions, when we came to crevasses of this description, we were obliged to descend by the ladder upon a wall of ice, not above a foot in breadth, which divided the crevasse longitudinally. This would not hold above one or two at a time, so that the first party were forced to mount the opposite brink, before the second party descended; and the ladder was thus passed backwards and forwards, until all had crossed, one of the guides remaining all the time stationary on the wall to move the ladder. Here the least giddiness would probably have been fatal, but happily we were by this time so well broken in, that we contemplated the blue gulphs on each side with tolerable composure.

During the first part of the passage of the glacier, we were exposed to the fall of some globular masses of ice, which, from the velocity with which they whizzed past us, must have come from a considerable height. One of the guides, however, stood sentry on an elevated post, to advertise us of their approach. In several places, bridges of snow, of very different degrees of strength, are formed across the crevasses. Dr. Hamel was impatient, and offered to show the way over one, for, to our eyes, there seemed to be no danger; but our guide obliged us to return some distance to find another method of passing over the crevasse. In about ten minutes, we arrived at a spot considerably lower, from whence we could see the bridge in profile; and we then saw that his suspicions were well-founded, the farther side of the bridge not being above six inches thick; so that had we persisted, one or two of the party must have fallen through. I mention this as an instance of the extreme caution of the guides, where there is any real danger, and to prove the falsehood of a charge, which was afterwards brought against us, of having forced the guides to proceed contrary to their better judgment. In about three hours, we reached the further side of the glacier, a distance of somewhat less than a mile.

We now ascended several slopes of snow of different elevations, from thirty to sixty degrees, in a zig-zag direction. I think this method of proceeding brought the danger more home to

my mind than any other. The surface being quite hard, the guides were obliged to cut notches for our steps, and these being very irregular, the difficulty of maintaining the balance was much increased: a single false step might have been fatal, and the view of the immense distance we must in that case inevitably fall, tended to unnerve the mind. After proceeding in this way, for about an hour, we arrived by a very steep slope, at the base of the Grand Mulet, a name given to a ridge of rocks, or rather a single rock, which rises almost perpendicularly to a great height, out of the eternal snow which surrounds it on all sides, and which is, from the nature of its construction, generally bare of snow itself. In ascending this ridge, we had a new species of danger to contend with. Our steps were all upon loose fragments of the rock, which was schistous. These occasionally gave way beneath our tread, and fell, with a tremendous noise, into the depths below. Owing, however, to the caution of our excellent guides, who perpetually warned us against suspicious stones, we surmounted this perilous ascent without any accident. At half-past four we reached the summit of the ridge, where we were to pass the night; having been about eleven hours and a half walking and climbing, almost without intermission: our guides soon constructed for us a kind of tent, but scarcely had we got under cover than it began to rain, and in about an hour we had a violent thunder-storm, which continued, with but little intermission, during the whole night. In the morning the way was equally dangerous to advance or retreat; or rather the latter, on examination, was found impossible; and it was soon too late to proceed upwards, since it was absolutely necessary to return to the same rock to sleep, so that, at length, we made up our minds to pass another night in our present bivouac.

Our amusements during the day of our compelled halt, were very similar to those of a piquet on an outpost, which commands a view of the enemy's camp; for the greater part of the time was spent in looking through an excellent telescope belonging to M. Sellique, and in reconnoitring the ground below. From our elevated post, we saw distinctly the windows of our hotel at the Prieuré, and sometimes fancied we discovered some one there watching us in a similar manner. Sometimes we lounged over a pamphlet of Saussure's ascent, from which we gathered that he had taken a day and a half to arrive at our present situation, accompanied by eighteen guides. We made arrangements for letting off our rockets at night, and some considerable time was occupied in mending one of Dr. Hamel's barometers, an air-bubble having found its way into the tube during the ascent of the day before. I was employed in making a bottle of lemonade for the following day, when it was pronounced excellent, and proved an admirable substitute for the wine, against which our feverish palates revolted. The evening of this day being also rainy, we reserved our fireworks for the following one, to celebrate our return; but about two o'clock in the morning we saw the stars through the apertures of our canvass, though the fog still seemed

rising from the valley. We were thus kept in suspense until five o'clock, when the sun, silvering with its rays the summit of the mountain, appeared, as it were, to invite us onward.

At twenty minutes past eight we arrived at the Grand Plateau, where the rug was soon spread, and we were glad to repose for a few minutes. From this height we had a most magnificent view of the scenery below. The morning fog having been gradually dissolved, we now saw every thing with the utmost distinctness. Hitherto we had seen nothing beneath us but a tranquil sea of white clouds, pierced here and there by the summit of some elevated crag, which appeared like an island in the midst of the deep; but now the whole valley was thrown open to our sight. We had a distinct view of the Lake of Geneva, and the heights beyond: while the ridge of the Jura bounded the panorama to the west. The Aiguille du Midi, which, during the early part of our ascent, had seemed to vie in height with Mont Blanc itself, now lay at our feet. The Dome de Gouté, on our right, was still a little above us; and we saw several avalanches, which had fallen from thence during the night. We had not, as yet, suffered much from the difficulty of respiration, partly because we had addressed ourselves to the ascent with empty stomachs, and partly from the steady deliberate step with which we continued to ascend. Though we felt no great appetite, yet, at the urgent entreaties of the guides, who assured us that we should feel it absolutely impossible to eat as we advanced higher up, we finished two more of the chickens. The lemonade proved much more acceptable, for we had now arrived at a high state of fever, and our thirst was incessant. About nine we resumed our march, with the expectation of reaching the summit at half-past eleven, and without another regular halt. After having proceeded an hour and a quarter, according to our usual method, in a zig-zag course, in the direction of the summit, and having at length reached the level of the Dome de Gouté, still at some distance on our right, we suddenly made an obtuse angle to the left, and thus leaving the Dome behind us, directed our course towards the eastern shoulder of the mountain, called by the guides the Mont Maudit. On our arrival there, we were to make one more bend to the right, and this last tack, to use a nautical phrase, would conduct us to the summit. In turning the corner of the Mont Maudit, we expected to incur some difficulty; but it was the last, the ascent from thence to the summit being very gradual. In encountering these mauvais pas, as the guides call them, recourse was to be had to the ropes, to attach ourselves together by threes in a party; but, as this passage was a work of five or ten minutes only, we did not anticipate much danger; or rather, it was hardly possible to think of danger, with the end of all our toils so full in our view. We were now scarcely 400 yards below the level of the summit, and expected to reach it in less than an hour.

About twenty minutes after the change in our direction above alluded to, the difficulty of breathing gradually increasing, and our thirst being incessant, I was obliged to stop half a minute

to arrange my veil; and the sun being at that moment partially concealed by a cloud, I tucked it up under the large straw hat which I wore. In this interval, my companion H—— and three of the guides passed me, so that I was now sixth in the line, and of course the centre man. H—— was next before me; and, as it was the first time we had been so circumstanced during the whole morning, he remarked it, and said we ought to have one guide at least between us, in case of accident. This I overruled by referring him to the absence of all appearance of danger at that part of our march, to which he assented. I did not then attempt to recover my place in front, though the wish more than once crossed my mind, finding, perhaps, that my present one was much less laborious. To this apparently trivial circumstance I was indebted for my life. A few minutes after the above conversation, my veil being still up, and my eyes turned at intervals towards the summit of the mountain, which was on the right, as we were crossing obliquely the long slope above described, which was to conduct us to the Mont Maudit, the snow suddenly gave way beneath our feet, beginning at the head of the line, and carried us all down the slope to our left. I was thrown instantly off my feet, but was still on my knees and endeavouring to regain my footing, when, in a few seconds, the snow on our right, which was of course above us, rushed into the gap thus suddenly made, and completed the catastrophe by burying us all at once in its mass, and hurrying us downwards towards two crevasses about a furlong below us, and nearly parallel to the line of our march. The accumulation of snow instantly threw me backwards, and I was carried down, in spite of all my struggles. In less than a minute I emerged, partly from my own exertions, and partly because the velocity of the falling mass had subsided from its own friction. I was obliged to resign my pole in the struggle, feeling it forced out of my hand. A short time afterwards I found it on the very brink of the crevasse. This had hitherto escaped our notice, from its being so far below us, and it was not until some time after the snow had settled, that I perceived it. At the moment of my emerging, I was so far from being alive to the danger of our situation, that on seeing my two companions at some distance below me, up to the waist in snow, and sitting motionless and silent, a jest was rising to my lips, till a second glance showed me that, with the exception of Mathieu Balmat, they were the only remnants of the party visible. Two more, however, being those in the interval between myself and the rear of the party, having quickly re-appeared, I was still inclined to treat the affair rather as a perplexing though ludicrous delay, in having sent us down so many hundred feet lower, than in the light of a serious accident, when Mathieu Balmat cried out that some of the party were lost, and pointed to the crevasse, which had hitherto escaped our notice, into which, he said, they had fallen. A nearer view convinced us all of the sad truth. The three front guides, Pierre Carrier, Pierre Balmat, and Auguste Tairray, being where the slope was somewhat steeper, had been carried down with

greater rapidity, and to a greater distance, and had thus been hurried into the crevasse, with an immense mass of snow upon them, which rose nearly to the brink. Mathieu Balmat, who was fourth in the line, being a man of great muscular strength, as well as presence of mind, had suddenly thrust his pole into the firm snow beneath, when he felt himself going, which certainly checked, in some measure, the force of his fall. Our two hindmost guides were also missing, but we were soon gladdened by seeing them make their appearance, and cheered them with loud and repeated hurrahs. One of these, Julien Devouassoux, had been carried into the crevasse, where it was very narrow, and had been thrown with some violence against the opposite brink. He contrived to scramble out without assistance, at the expense of a trifling cut on the chin. The other, Joseph Marie Couttet, had been dragged out by his companions, quite senseless, and nearly black from the weight of snow which had been upon him. In a short time, however, he recovered. It was long before we could convince ourselves that the others were past hope, and we exhausted ourselves fruitlessly for some time in fathoming the loose snow with our poles. When the sad truth burst upon us, our feelings may perhaps be conceived, but cannot be expressed. The first reflection made involuntarily by each of us—'I have caused the death of those brave fellows,' however it was afterwards overruled in our calmer moments, was then replete with unutterable distress. We were separated so far from one another by the accident, that we had some distance to come before we could unite our endeavours. The first few minutes, as may be readily imagined, were wasted in irregular and unsystematic attempts to recover them. At length, being thoroughly convinced, from the relative positions of the party when the accident happened, that the poor fellows were indeed in the crevasse, at the spot pointed out by Mathieu Balmat, the brother of one of them; in our opinion, only one thing remained to be done, and that was to venture down upon the snow which had fallen in, and, as a forlorn hope, to fathom its unknown depths with our poles. After having thus made every effort in our power for their recovery, we agreed to abandon the enterprise altogether, and return to the Grand Mulet.'

The party did make every possible effort to ascertain the situation of their lost companions. They ventured, against the judgment of the remaining guides, on the loose snow, and, after thrusting in their poles to their full length, knelt down and applied their mouths to the end, shouting along them, and then listening for an answer, in the fond hope that they might be still alive, sheltered by some projection of the icy walls of the crevasse; 'but, alas!' adds the narrator, 'all was silent as the grave, and we had too much reason to fear that they were long since insensible, and probably at a vast depth beneath the snow on which we were standing. We could see no bottom to the gulf on each side of the pile of snow on which we stood; the sides of the crevasse were here, as in other places, solid ice, of a cerulean color, and very beautiful to the

eye. Two of the guides, our two leaders, had followed us mechanically to the spot, but could not be prevailed upon to make any attempts to search for the bodies. One of these soon proposed to us to continue the ascent. This was Marie Couttet, who had escaped so narrowly with his life; but Julien Devouassoux loudly protested against this, and resolutely refused to advance. Whether or not we could have prevailed on a sufficient number to accompany us to the summit, I cannot say; but we did not bring the point to trial, having now no room left in our minds for any other idea than that of the most bitter regret. I hardly know whether we should then have felt sufficient interest to lead us a hundred yards onwards, had that been the only remaining interval between us and the summit. Had we recovered our lost companions, I am sure the past danger would not have deterred us; but to advance, under present circumstances, required other hearts than ours.'

BLANC DE BERRY, a town of France, in the department of the Indre, and ci-devant province of Berry; seated on the river Creuse, which divides it into two parts. The land about it is barren, and full of trees, heath, and lakes. It is thirty-five miles east of Poitiers. Population about 4000.

BLANC COURSIER HERALD, created by patent on the revival of the order of the Bath, 1725, 'to attend the first and principal companion of the order for the time being.' He enjoys all rights, privileges, and immunities as any other herald; and his office is united, and perpetually consolidated with the office of genealogist of the said order.

BLANCA, an island on the coast of Terra Firma, and one of the small Antilles, north of Margareta.

BLANCHARD (James), a painter, was born at Paris, who acquired the rudiments of his profession under Nicholas Boller his uncle; but left him at twenty years of age, and travelled into Italy. He staid two years at Rome, and from thence went to Venice, where he became charmed with the works of Titian, Tintoret, and Paul Veronese, and followed their manner. His capital piece is a picture of the descent of the Holy Ghost, in the church of Notre Dame. He died in the flower of his age, in 1683. Blanchard is esteemed the best of the French colorists.

BLANCHE', v. } Fr. *blanc*; Ital. *bianco*;
 } Span. *blanco*; Ang.-Sax. *blican*;
 Germ. *blicken*; blinken, to shine, to glitter, to twinkle or blink; and, by consequence, to whiten. Thus to blanch is to illuminate; to whiten; to give a fair appearance; a fair face to any thing; it is now obsolete in the sense of blinking; that is of shrinking from, and evading what is unpleasant; though it has this meaning as used by Sidney.—*Ency. Met.*

This judges thought it dangerous to admit ifs and ands, and to qualify treason; whereby every one might express his malice, and blanch his danger.

Bacon.

Optimi consiliiarii mortui; books will speak plain, when counsellors blanch.

Id.

You can behold such sights,
 And keep the natural ruby of your cheeks,
 When mine is blanch'd with fear. *Shakspeare.*
 ()

A way of whitening wax cheaply may be of use; and we have set down the practice of tradesmen who blanch it. *Boyle.*

And sin's black dye seems *blanched* by age to virtue. *Dryden.*

Their suppers may be bisket, raisins of the sun, and a few *blanched* almonds. *Wiseman.*

BLANCHE, CARTE. See CARTE.

BLANCHE DE LA PORTE, the wife of Baptista de la Porta, a native of Padua, distinguished herself, in the thirteenth century, by her courage and her chastity. On the death of her husband at the siege of Bassano, she was violated by the conqueror Accioliinus; and, to escape the repetition of his brutality, she threw herself into the tomb of her husband, and caused a stone to fall upon her, by which she was crushed to death.

BLANCHING, in coinage, the operation performed on the planchets, or pieces of silver, to give them the requisite lustre and brightness. Pieces of plate are also blanching when it is wished to have them continue white, or have only some parts of them burnished. See METALLURGY.

BLANCH-LYON, one of the pursuivants at arms.

BLANCO, CAPE, a promontory of European Turkey, on the south coast of the Morea. Long. 21° 56' E., lat. 36° 44' N. 2. A cape on the south coast of the island of Sicily. Long. 13° 10' E., lat. 35° 28' N. 3. A cape on the north coast of Corsica, a little to the west of Cape Corso. 4. A promontory on the south coast of Corfu, one of the Ionian islands. Long. 20° 6' E., lat. 39° 28' N. 5. A cape on the north coast of Spain, in the principality of Asturias. Long. 6° 54' W., lat. 43° 35' N. 6. A promontory on the west coast of Iviça, one of the Pithyusæ islands. Long. 1° 16' E., lat. 39° 1' N. 7. A cape on the south coast of the island of Majorca. Long. 2° 45' E., lat. 39° 21' N. 8. A promontory of Naples, on the east coast of Calabria. Long. 17° 25' E., lat. 38° 59' N. 9. A cape of Syria, in the Mediterranean. Long. 35° 6' E., lat. 33° 2' N. 10. A cape on the west coast of Natolia. Long. 26° 18' E., lat. 38° 14' N. 11. A cape on the south-west coast of the island of Cyprus. Long. 32° 15' E., lat. 35° 12' N. 12. A cape on the western coast of Africa. It projects to a considerable distance into the sea, and except Cape Verd, forms the most westerly point of this continent. It was discovered by the Portuguese in 1441. The approach is dangerous. Long. 16° 58' E., lat. 20° 47' N. 13. A cape on the coast of Morocco, near Mazagan. Long. 9° 20' W., lat. 33° 10' N. 14. A cape in Tunis, near Bizerta. Long. 9° 50' E., lat. 37° 15' N. 15. A cape on the coast of Peru, about 120 miles west of Guayaquil. It forms the south point of the great gulf of Tumbez, or Guayaquil. Long. 81° 6' W., lat. 4° 18' S. 16. A cape on the coast of the province of Costa Rica, and kingdom of Guatemala. 17. A cape on the coast of Brasil, in the province of Paraiba. 18. A cape on the coast of Terra Firma, and province of Venezuela. 19. A cape on the north-western point of the bay of Salinas, in the tenth degree of northern latitude, on the coast of Terra Firma. In some maps it is called the western point of

the gulf of Nicoya. 20. A cape on the north-west coast of New Albion. 21. A cape of Patagonia, south-east of Julian Bay, eight leagues west of Pepys' island.

BLANCS MANTEAUX, a name originally given to the Servites, or servants of the Blessed Virgin, on account of their white cloaks; but since applied to divers sorts of religious, who have successively inhabited the house of the Servites.

BLAND', *adj.* Lat. *blandus*, soft; mild; BLAN'DIMENT, } gentle. To smooth; to soften; BLAN'DISH, } ten; to flatter by words or BLAN'DISHING, } gestures; kind speeches; BLAN'DISHMENT. } tender caressing.

The little babe up in his arms he hent,
Who, with sweet pleasure and bold *blandishment*,
'Gan smile. *Spenser.*

Lo! there before his face his ladie is,
Under black stole hyding her bayted hooke,
And, as half blushing offred him to kis,
With gentle *blandishment* and lovely looke,
Most like that virgin true, which for her knight him took. *Id.*

Mustering all her wiles,
With *blandish* parleys, feminine assaults,
Tongue-batteries, she surceased not day nor night
To storm me over-watched, and wearied out. *Milton.*

In her face excuse
Came prologue, and apology too prompt;
Which, with *bland* words at will, she thus addressed. *Id.*

Each bird and beast, behold
Approaching two and two; these cowering low
With *blandishment*. *Id.*
Adam waked, so customed, for his sleep
Was aery light, from pure digestion bred,
And temperate vapors *bland*, which the' only sound
Of leaves and fuming rills, Aurora's fan,
Lightly dispersed, and the shrill matin song
Of birds on every bough. *Id.*

Strong were his hopes a rival to remove,
With *blandishments* to gain the public love. *Dryden.*

An even calm
Perpetual reigned, save what the zephyrs *bland*
Breathed o'er the blue expanse. *Thomson.*

BLAND (Elizabeth), daughter of Robert Fisher of Long-acre, and wife of Mr. Nathaniel Bland, a linen-draper in London, was a lady distinguished in the seventeenth century by her skill in the Hebrew, particularly in writing the Hebrew character. A philactery in Hebrew, of her writing, is preserved among the curiosities of the Royal Society.

BLANDA, in ancient geography, a Roman city in the territory of Barcino, in Hispania Citerior: now called Blanes.

BLANDFORD, or BLANDFORD-FORUM, a market town of Dorset, ten miles north-west from Wimborne-Minster, and 103½ west from London. It is situate on the Stour, near the Downs; and contains 2643 inhabitants, employed in trade and manufactures, principally that of shirt-buttons, made by females. This was a British town long before the arrival of the Romans. It gives the title of marquis to the duke of Marlborough; and is governed by a bailiff and ten common-councilmen, who have power to purchase and enjoy lands in fee; a common seal, and a serjeant-at-mace. It formerly sent members to parliament. Two of the

capital burgesses can determine suits in the borough, not exceeding £10. The church is a neat modern structure, in the Grecian style. The streets are handsome, and the houses generally built of brick.

Blandford has suffered more by fires than any other town in England. Camden and Coke mention one which happened before 1579; and by another, in 1677, it was almost destroyed. In 1713 a fire consumed the greatest part of East-street; and in 1731 the whole town, except that part of East-street which had been before burnt, was destroyed. This fire began at a soap-boiler's at the corner of two streets, and communicated to a grocer's, where was a cask of gunpowder, which, being blown up, dispersed the burning thatch and embers in every direction, communicating them also by the drift of a strong wind, to the neighbouring villages of Blandford, St. Mary, and Brianstone. 'Almost the whole town,' it is said by a spectator, 'was in flames together about seven o'clock; and the goods and furniture carried into the streets for safety, were abandoned to destruction by the owners. The church was long preserved, but the steeple at length caught fire, and was quenched oftener than once. At midnight, however, the flames were seen breaking through the roof, and in two hours afterwards the lead melted; the stones split, and flew; nay, so fervent and irresistible was the heat, that the bells themselves dissolved and ran down in streams.' On this occasion fourteen persons perished, 400 families were burnt out of their houses, and the value of the property destroyed, exclusive of what was covered by insurances, amounted to £84,348. To add to the calamity, the small pox was raging at the time, yet of sixty families infected by it, who were all removed under hedges in the fields, only one person died. A great scarcity of provisions prevailed the morning after the fire, but this was soon relieved by the neighbourhood, and sixty wooden buildings were speedily erected to shelter the sufferers. Towards the rebuilding of the town, king George II. subscribed £1000, the queen £200, and the prince of Wales £100.

Near Blandford stood the famous Damary oak, which was rooted up for firing in 1755. In 1747 it measured seventy-five feet high, the branches extending seventy-two; the trunk at the bottom was sixty-eight feet in circumference, and twenty-three in diameter; it had a cavity in its body fifteen feet wide. During the civil war, and till after the Restoration, an old man sold ale in it; and when the town was burnt down, it sheltered a whole family.

BLANDFORD, a thriving town of Virginia, pleasantly situated in a plain, on the eastern branch of Appamatow river, containing 1200 inhabitants. It is ten miles north-east of Petersburg. The marshes in the vicinity of the town, which formerly rendered it unhealthy, are now drained.

BLANDFORDIA, in botany, a genus of what Linnæus calls the patrician order. Class, hexandria; order, monogynia. Natural order, corniæ, Linn. Its essential characters are, cor. funnel-shaped, with six marginal segments: filaments inserted into the tube: caps. stalked, of three cells:

SEEDS, numerous and bristly. The species are, 1. *B. nobilis*, scarlet blandfordia. 'Bractæas but half the length of the partial stalks while in flower. Leaves narrow-linear.' *Br.*—Native of the neighbourhood of Port Jackson. 2. *B. grandiflora*, large-flowered blandfordia. Bractæas nearly as long as the partial stalks while in flower; the inner but one-third as large as the outer.—Observed at Port Jackson by Mr. Brown.

BLANDONONA, in ancient geography, a small city of Liguria in Italy: now called Bron, or Broni.

BLANDRATA (George), an Italian physician of the sixteenth century, who successively professed Popery, Lutheranism, Calvinism, Arianism, and Socinianism, and was at length assassinated by his nephew, to whom he had left his property, in 1593. In 1568 he printed a controversial treatise entitled *Brevis Enarratio Disputationis Albanæ de Deo trino*, &c. in one volume 4to.

BLANES, anciently Blanda, a sea-port of Spain, in Catalonia, seated near the Toderà, twenty miles south of Girona.

BLANK' *v. n. s. & adj.* } This is undoubtedly
BLANK'NESS. } ly of the same etymology, and of the same meaning as blanch. It is used, however, more frequently in a metaphorical sense, to express the emotions of the mind when inward terror turns the face pale; and the white and ghastly look reveals the astonishment and dismay which are working in the breast. Paper unsoiled is blank, that is, white; thus any thing without marks or characters is blank: blank also signifies nonplused; confounded: to blank is to evade; to confuse; to efface; to annul: a blank is when any thing is wanting.

All former purposes were *blanked*, the governour at a bay, and all that charge lost and cancelled.

Spenser.

Our substitutes at home shall have *blank* charters,
Whereunto, when they know that men are rich,
They shall subscribe them for large sums of gold.

Shakspeare.

If you have heard your general talk of Rome,
And of his friends there, it is lots to *blanks*
My name hath touched your ears. *Id.*

For him, I think not on him; for his thoughts,
Would they were *blanks*, rather than filled with me. *Id.*

Slander,
Whose whisper o'er the world's diameter,
As level as the cannon to his *blank*,
Transports its poisoned shot. *Id.*

DUKE. And what's her history.

VIO. A *blank*, my lord: She never told her love,
But let concealment, like a worm i' the bud,
Feed on her damask cheek. *Id.*

To the *blank* moon
Her office they prescribed; to the' other five
Their planetary motions. *Milton.*

Dagon must stoop, and shall ere long receive
Such a discomfit, as shall quite despoil him
Of all these boasted trophies won on me,
And with confusion *blank* his worshippers. *Id.*

If the atheist, when he dies, should find that his
soul remains, how will this man be amazed and
blanked! *Tillotson.*

Adam, soon as he heard
The fatal trespass done by Eve, amazed,
Astonied stood and *blank*; while horror chill
Ran through his veins, and all his joints relaxed.

Milton.

For the book of knowledge fair,
Presented with an universal *blank*
Of nature's works, to me expunged and rased.

Id.

There without such boast, or sign of joy,
Solicitous and *blank*, he thus began.

Id.

In fortune's lottery lies
A heap of *blanks*, like this, for one small prize.

Dryden.

She has left him
The *blank* of what he was;
I tell thee eunuch, she has quite unmanned him.

Id.

I cannot write a paper full as I used to do; and
yet I will not forgive a *blank* of half an inch from
you.

Swift.

Life may be one great *blank*, which, though not
blotted with sin, is yet without any characters of
grace or virtue.

Rogers.

So strong the zeal to immortalize himself
Beats in the breast of man, that even a few,
Few transient years, torn from the abyss abhorred
Of *blank* oblivion, seems a glorious prize,
And even to a clown.

Cowper. Tash.

BLANK, a small copper coin, formerly current
in France, at the rate of five deniers Tournois.
There were also greater blanks, or pieces of
three blanks, and others of six, in respect where-
of the single sort were called little blanks; but of
these they are all become only monies of account.

BLANK, in coinage, a plate or piece of gold
or silver, cut and shaped for a coin, but not yet
stamped.

BLANKS, in judicial proceedings, certain void
spaces sometimes left by mistake. A blank (if
something material be omitted) in a declaration,
abates it; and such a blank is a good cause of
demurrer.

BLANK VERSE, in modern poetry, that com-
posed of a certain number of syllables, without
the assistance of rhyme. See POETRY.

BLANKENHEIM, a small territory of Ger-
many, which had the title of a county, and was
part of that of Eyffel, near the archbishopric of
Cologne and duchy of Juliers; it was annexed to
France in the revolution, and included in the
department of the Rhine and Moselle.

BLANKET, *v. & n.* } French, *blanchet*. A
BLANKETING. } woollen cover, soft, and
loosely woven, spread commonly upon a bed,
over the linen sheet, for the procurement of
warmth; a covering. To blanket, is to cover
with, to hide, to toss in a blanket. It is used
metaphorically by Shakspeare, from the verb to
blank.

Nor heaven peep through the *blanket* of the dark,
To cry, hold! hold!

Shakspeare.

My face I'll grime with filth;
Blanket my loins; tie all my hair in knots.

Id.

The abilities of man must fall short on one side or
other, like too scanty a *blanket* when you are a-bed;
if you pull it upon your shoulders, you leave your
feet bare; if you thrust it down upon your feet, your
shoulders are uncovered.

Temple.

Ah, oh! he cried; what street, what lane, but
knows

Our purgings, pumpings, *blanketings*, and blows?

Pope.

BLANKET, in commerce, a warm woolly sort
of covering. For the manufacture of blankets, Wit-
ney in Oxfordshire has long been famous. See
WITNEY.

BLANKOF (John Teunisz), a painter of great
talent, was born at Alcmær in 1628, and re-
ceived his earliest instruction from Arent Tier-
ling. He was afterwards the disciple of Peter
Scheyenburg and Cæsar Van Everdingen; after
which he went to Rome, and copied the best
masters. He was admitted into the society of
Flemish painters called Bentvogels, who gave
him the name of Jan Maat, and by that name he
is most generally known. His subjects are land-
scapes, views of rivers, sea-shores, havens, ports,
&c. which he executed with a light free pencil.
He died in 1670.

BLANQUILLE, in commerce, a small silver
coin, current in Morocco and on the coast of
Barbary, worth about three-halfpence.

BLAPS, in entomology, one of the fabrician
genera of coleopterous insects; the palpi cla-
vated, and four in number; jaws straight and
bifid; lip membranaceous and cleft; and the
antennæ moliniform at the tip. Gmelin adopts
the genus only as a subdivision of *pinelia*.

BLAPSICULA, in botany, a species of *cyanus*.

BLARE, in commerce, a small copper coin of
Bern, nearly of the same value with the batz.

BLAREGNIES, a town of France, in the
ci-devant province of Hainault. Near this place
the English and their allies, under the duke of
Marlborough, obtained a very bloody victory
over the French, in 1709. The armies on each
side consisted of 120,000 men, of whom at least
30,000 were killed. This battle is most com-
monly called the battle of Malplaquet. See
MALPLAQUET. Blaregnies is seven miles south
of Mons.

BLAS, a cape of South America, on the coast
of Darien, and kingdom of Terra Firma, which
runs two leagues into the sea, and is very dan-
gerous. It is eighteen miles from Porto Bello,
and sixty-two from Carthagera.

BLASE (Bishop). See BLAISE.

BLASIA, in botany, a genus of the cryptoga-
mia class and hepaticæ order of plants: male,
solitary; female, no calyx; capsule, imbedded
in the frond, oblique, one-celled, with a tubular
mouth; seeds, numerous. One species only, *B.*
pusilla, a native of Britain, which grows natu-
rally on the banks of ditches and rivulets, in a
gravelly or sandy soil. It grows flat upon the
ground in a patch, composed of numerous thin,
green, pellucid leaves, marked with a few whitish
veins near the base, divided and subdivided
into obtuse segments obscurely crenated on the
edges. The margins of the leaves are a little
elevated, but the interior parts adhere close to
the ground by a fine down which answers the
purpose of roots. The seeds are so small as to
be almost imperceptible.

BLASKETS, or FERRITERS ISLANDS, a clus-
ter of islets in the Atlantic, near the west coast
of Ireland. The largest is about three miles

long and half a mile broad, lying at the north side of the entrance into Dingle bay. Long. 10° 22' W., lat. 52° 5' N.

BLASPHEME, } Low Lat. *blasphemo* ;
 BLASPHMER, } Old Fr. *blasphemer* ; Gr.
 BLASPHMERESS, } *βλασφημεῖν, Βάλλω, Πέτο,*
 BLASPH'ING, } to assail ; and *φῆμη, fama,*
 BLAS'PHEMOUS, } fame or reputation. Blas-
 BLAS'PHEMY. } phemy, therefore, in its
 BLAS'PHEMY. } simple acceptation, is an
 assault upon character. But it is now almost
 exclusively applied to any insult offered to the
 Deity.

From thence into the sacred church he broke
 And robd the chancell, and the desks downe threw,
 And altars fouled, and *blasphemy* spoke,
 And the images, for all the goodly hew,
 Did cast to ground, whilst none was them to rew.

Spenser.
 I punished them oft in every synagoge, and com-
 pelled them to *blaspheme*. *Acts.*

O man, take heed how thou the gods dost move,
 To cause full wrath, which thou canst not resist ;
Blasphemous words the speaker vain do prove.

Sidney.
 The truest issue of thy throne
 By his own interdiction stands accursed,
 And does *blaspheme* his breed. *Shakspeare.*

But that my heart's on future mischief set,
 I would speak *blasphemy*, ere bid you fly ;
 But fly you must. *Id.*

And darest thou to the Son of God propound
 To worship thee accurst ; now more accurst
 For this attempt, bolder than that on Eve,
 And more *blasphemous* ? *Milton.*

For this he shall live hated, be *blasphemed*,
 Seized on by force, judged, and to death condemnéd.
Id.

Even that *blasphemer* himself would inwardly re-
 verence his reprover, as he in his heart really despises
 him for his cowardly base silence. *South.*

Where is the right use of his reason, while he
 would *blasphemously* set up to controul the commands
 of the Almighty ? *Swift.*

Intrinsic goodness consists in accordance, and sin
 in contrariety, to the secret will of God ; or else God
 could not be defined good, so far as his thoughts and
 secrets, but only superficially good, as far as he is
 pleased to reveal himself, which is perfect *blasphemy*
 to imagine. *Hammond.*

Blasphemy, strictly and properly, is an offering of
 some indignity, or injury, unto God himself, either
 by words or writing. *Ayliffe.*

A man can hardly pass the streets, without having
 his ears grated with horrid and *blasphemous* oaths and
 curses. *Tillotson.*

Those who from our labours heap their board,
Blaspheme their feeder, and forget their lord. *Pope.*

Inspire me, night ! with all thy tuneful spheres,
 Whilst I with seraphs share seraphic themes,
 And shew to men the dignity of man,
 Lest I *blaspheme* my subject with my song. *Young.*

Pale meagre spectres wander all around,
 And pensive shades and black deformed ghosts,
 With impious fury some aloud *blaspheme*. *Mrs. Rowe.*

BLASPHEMY is a crime recognised by the civil
 and canon law, and by both the statute and
 common law of England. Justinian adjudged
 to it the punishment of death. An old Scotch
 law doomed the offender to undergo the ampu-
 tation of his tongue. By the canon law the

punishment of it is only a solemn penance upon
 laymen, in the church, and by general custom,
 either a pecuniary or corporal punishment, but
 not death. The 9 & 10 William III. enacts,
 that the offence shall be visited with legal in-
 capacities and imprisonment. This statute ex-
 pressly included Anti-Trinitarians, but so much
 of it as affected them was repealed by the Trinity
 Bill, which passed in 1813 ; notwithstanding
 which, it is doubted whether the common law
 does not still regard the denial of the Trinity as
 a crime.

The English word is derived from the Greek,
 and the original is a compound term, bearing the
 signification of wounding the reputation, of de-
 traction or calumny. The Hebrew word, which
 is translated by the Greek term, now explained
 in the LXX., and by blasphemy in the English
 version, is of the same meaning, *נרף* opprobrium
 vel convicium, aut blasphemia est hujus radicis
 interpretatio.—Concord. Sac. Bib. Heb. Calasio,
 ed. Romaine. Both words denote slander, or
 wilful, malignant falsehood against whomsoever
 directed. But, as amongst the Jews contumelious
 language with regard to Jehovah was the highest
 of crimes, the Hebrew word was at length ap-
 propriated to that particular offence.

Dr. Campbell is the only modern critic who has
 treated expressly of the subject of blasphemy,
 with a view to correct some popular mistakes
 upon it. 'In theological disputes, nothing is
 more common,' says he, 'to the great scandal
 of the Christian name, than the imputation of
 blasphemy, thrown by each side upon the other.
 The injustice of the charge on both sides will be
 manifest on a little reflection, which it is the
 more necessary to bestow, as the commonness of
 the accusation, and the latent but contagious
 motives of employing it, have gradually perverted
 our conceptions of the thing.'

'It has been remarked,' he adds, 'already,
 that the import of the word *βλασφημία* is maledi-
 centia, in the largest acceptation, comprehending
 all sorts of verbal abuse, imprecation, reviling,
 and calumny. Now let it be observed, that when
 such abuse is mentioned as uttered against God,
 there is properly no change made in the significa-
 cation of the word ; the change is only in the ap-
 plication, that is, in the reference to a different object.
 The idea conveyed in the explanation now given
 is always included, against whomsoever the
 crime be committed. In this manner every term
 is understood that is applicable to both God and
 man. Thus the meaning of the word disobey is
 the same, whether we speak of disobeying God
 or of disobeying man. The same may be said
 of believe, honor, fear, &c. As, therefore, the
 sense of the term is the same, though differently
 applied, what is essential to constitute the crime
 of detraction in one case, is essential also in the
 other. But it is essential to this crime, as com-
 monly understood, when committed by one man
 against another, that there be in the injurious
 person the will or disposition to detract from
 the person abused. Mere mistake in regard to
 character, especially when the mistake is not
 conceived by him who entertains it to lessen the
 character, nay, is supposed, however erroneously,
 to exalt it, is never construed by any one into

the crime of defamation. Now, as blasphemy is, in its essence, the same crime, but immensely aggravated by being committed against an object infinitely superior to man, what is fundamental to the very existence of the crime will be found in this, as in every other species which comes under the general name. There can be no blasphemy, therefore, where there is not an impious purpose to derogate from the Divine Majesty, and to alienate the minds of others from the love and reverence of God.—*Preliminary Dissertation*, prefixed to his Gospels, 8vo. vol. i. p. 448.

It has been a matter of considerable discussion in modern times, how far a crime, in its nature so difficult properly to define—in its strict sense, perhaps, so rarely committed—and the decision upon which it seems so unjust to place in the hands of any one religious party, should remain at all a matter for prosecution by the laws of a civilised state. On the one hand it is contended, that, as Christianity is a part and portion of the law in every country maintaining an established religion, it seems to be involved with the just defence of that religion that blasphemy should be punished; that it is immoral; and that contumely of the Deity, or even of the books of inspiration, ought not to be diffused among the unthinking and the young.

To this it is replied, '*Deorum injuriæ diis curæ*,' though calumny and slander, when affecting our fellow men, are punishable by law; for this plain reason, because an injury is done and a damage sustained, and a reparation therefore due to the injured party; yet, this reason cannot hold where God and the Redeemer are concerned, who can sustain no injury from low malice and scurrilous invective; nor can any reparation be made to them by temporal penalties; for these can work no conviction or repentance in the mind of the offender; and, if he continue impenitent and incorrigible, he will receive his condign punishment in the day of final retribution.' See *Furneaux's Letters to Blackstone*. Second ed. pp. 70, 71.

The punishment of constructive blasphemy by law seems still more open to abuse; for, as the above able writer observes, 'laws for the punishment of blasphemy may be easily turned to the destruction of all religious liberty: for what is blasphemy, in the general sense of the term, but uttering something dishonorable or injurious to the Divine Being? And what controverted religious sentiment is there, which under this general notion, by a court and jury of bigots, may not be condemned as blasphemy? The Athenasian styles the Arian a blasphemer, the Arian the Athenasian; the Calvinist the Arminian, the Arminian the Calvinist: and thus the same laws, differently applied as different parties prevail, will prove fatal to the religious liberty of all of them in their turn.'

BLASPHEMY AGAINST THE HOLY GHOST. Divines are not agreed with respect to the nature of the sin thus denominated (Matt. xii. 31.), and the grounds of the extreme guilt ascribed to it. Tillotson maintains, that it consisted in maliciously attributing the miraculous operations which Christ performed by the power of the Holy Ghost to the devil. Dr. Whitby refers it to

the dispensation of the Holy Ghost, which commenced after our Lord's resurrection and ascension; and those, he says, were guilty of the crime who persisted in their unbelief and blasphemed the Holy Ghost, representing him as an evil spirit. The crime was unpardonable, because it implied a wilful opposition to the last and most powerful evidence which God would vouchsafe mankind, and precluded the possibility, by rejecting the means, of recovery. In this sentiment Dr. Doddridge coincides. Bishop Pearce's remarks here are excellent. 'Under the Jewish law there was no forgiveness for wilful and presumptuous sins: concerning them it is said in Numb. xv. 30, 31, 'The soul which doeth ought presumptuously, the same reproacheth the Lord; and that soul shall be cut off from among the people, because he hath despised the word of the Lord and hath broken his commandments.' See, to the same purpose, Numb. xxxv. 31. Lev. xx. 10. and 1 Sam. ii. 25. With regard to the *seculum futurum*, the age to come, or the Christian dispensation, no forgiveness could be expected for such sinners as these Pharisees were; because when they blasphemed the Holy Spirit of God, by which Jesus wrought his miracles, they rejected the only means of forgiveness, which was the merit of his death applied to men by faith, and which, under Christianity, was the only sacrifice that could atone for such a sin: in this sense, as things then stood with them, their sin was an unpardonable one. But then it is not to be concluded from hence, that if they repented of this blasphemy, they could not obtain forgiveness.' The bishop then quotes an observation of Athanasius, (vol. i. p. 237. Ed. Col.) 'Christ does not say to him that blasphemeth and repenteth, but to him that blasphemeth, and therefore he means, to him that continueth in his blasphemy; for with God there is no sin that is unpardonable.'

BLAST, *v. & n.* } From Sax. *blæf*; Germ. *blasen*; to blow. A sudden
BLASTER, }
BLASTING, } gust or puff of wind: to
BLASTMENT. } blast, is to strike with an impetuous and destructive force; to wither; to desolate; to destroy; to make a shrill, loud, and sudden noise, by blowing a trumpet, or any instrument of wind music; to cut off prematurely to render infamous; to confound; to strike with terror.

By the blast of God they perish. *Job.*

But rede that boweth doune for every blast—

Ful lightly cesse wind, it wol arise;

But so nil not an oke whan it is cast. *Chaucer.*

The blossome which my braunch of youth did beare,
With breathed sighes is blowne away and blast-ed.

Spenser. Shepheard's Calender.

A myghty tre and of a noble height
Whose beaute blasted was with boystuous winde,
His leaues loste, the sappe was from the rynde.

Skelton.

I am no blaster of a ladie's beauty,
Nor bold intruder on her special favours,
I know how tender reputation is,
And with what guards it ought to be preserved.

Beaumont and Fletcher

They that stand high have many *blasts* to shake them;
And if they fall, they dash themselves to pieces.

Shakespeare.

Welcome, then,
Thou unsubstantial air, that I embrace;
The wretch that thou has blown unto the worst
Owes nothing to thy *blasts*.

Id.

In peace, there's nothing so becomes a man,
As modest stillness and humility;
But when the *blast* of war sounds in our ears,
Then imitate the action of the tyger.

id.

In the morn and liquid dew of youth,
Contagious *blastments* are most imminent.

Id.

You nimble lightnings, dart your blinding flames
Into her scornful eyes! infect her beauty,
You fen-sucked fogs, drawn by the powerful sun,
To fall and *blast* her pride.

Id.

First Buckingham, that durst 'gainst him rebel,
Blasted with lightning struck, with thunder fell;
Next the twelve commons are condemned to groan,
And roll in vain at Sisyphus's stone.

Marvell.

Blast him O heavens! in his mad career,
And let this isle no more his frenzy fear.

Id.

He blew his trumpet—the angelick *blast*
Filled all the regions.

Milton.

The Veline fountains, and sulphureous Nar,
Shake at the baleful *blast*, the signal of the war.

Dryden.

Three ships were hurried by the southern *blast*,
And on the secret shelves with fury cast.

Id.

Oh! Portius, is there not some chosen creature,
Some hidden thunder in the store of heaven,
Red with uncommon wrath, to *blast* the man
Who owes his greatness to his country's ruin?

Addison.

She that like lightning shined, while her face
lasted,

The oak now resembles, which lightning had *blasted*.

Waller.

Agony unmixed, incessant gall,
Corroding every thought, and *blasting* all

Thomson.

He shews himself weak, if he will take my word
when he thinks I deserve no credit; or malicious, if
he knows I deserve credit, and yet goes about to
blast it.

Stillington.

And, with a withering look,
The war-denouncing trumpet took,
And blew a *blast* so loud and dread,
Were ne'er prophetic sounds so full of woe.

Collins.

Nor deemed before his little day was done
One *blast* might chill him into misery.

Byron.

BLAST is also applied in a more general sense
to any forcible stream of wind or air, excited by
the mouth, bellows, or the like.

BLAST, in agriculture and gardening, a name
for what is otherwise called a blight.

BLASTING, among miners, a term for the
tearing up rocks, which they find in their way,
by gunpowder. The old method of doing this
was to make a long hollow of a large gun-barrel
in the rock they would split; this they filled
with gunpowder; then they firmly stopped up
the mouth of the hole with clay, except a touch-
hole, at which they left a match to fire it. More
commonly now, however, a straw filled with
gunpowder is introduced among shot, at the bot-
tom of a cylindrical hole in the rock. Some of
the hardest rocks at Fort William and at Bristol
were thus exploded by Mr. Joseph.

BLASTING OF WOOD, the rending in pieces logs
of wood, such as roots of trees, &c. by means of
gunpowder. A very simple method has been
described by Mr. Knight of Foster Lane, Lon-
don, which is thus effected: the instrument used
is a screw, with a small hole drilled in the centre.
The head of the screw is formed into two strong
horns, for the more ready admission of the lever
with which it is to be turned, and a wire, for the
purpose of occasionally clearing the touch-hole.
When a block of wood is to be broken, a hole is
to be bored with an auger to a proper depth, and
a charge of gunpowder introduced. The screw
is to be turned into the hole till it nearly touches
the powder; a quick match is then to be put
down the touch-hole till it reaches the charge.
The quick match is eighteen inches long, to afford
the operator an opportunity of retiring, after
lighting it, to a place of safety: it is made by
steeping a roll of twine or linen thread in a solu-
tion of saltpetre.

BLASTUM MYSOLITUM, in the materia me-
dica, a term used by some writers to express the
cassia lignea, or cassia bark, when not peeled off
from the branches, but kept with the wood.

BLASTUS, in sacred history, chamberlain to
king Herod. See Acts xii. 20.

BLATANT, adj. Fr. *blattant*. Bellowing as
a calf.

But now I come unto my course again
To his achievement of the *blatant blast*;
Who all this while at will did range and raine,
Whilst none was him to stop, nor none him to re-
strain.

Spenser.

You learned this language from the *blatunt* beast.

Dryden.

BLATOBULGIUM, in ancient geography, a
place of the Brigantes in Britain, having a camp
of exploratores or scouts near Solway Frith and
promontory; now called Bullness.

BLATTA, or cock-roach, a genus of insects
belonging to the order of hemiptera, or such as
have four semicrustaceous incumbent wings. The
head of the *blatta* is inflected towards the breast;
the antennæ, are hard like bristles; the elytra
and wings are plain; the breast is smooth,
roundish, and is terminated by an edge or margin;
and there are two small horns above the tail.
This insect resembles the beetle; and there are
ten species, viz. 1. *B. Africana* is ash-colored,
and has some hairs on its breast. It is found in
Africa. 2. *B. alba* is red, the margin of the
breast is white. It is found in Egypt. 3. *B.*
Americana is of an iron color, and the hind part
of the breast is white. The wings and elytra are
longer than its body. It is found in America
and the south of France. 4. *B. Orientalis* is of
a dusky ash-color, has short elytra, with an ob-
long furrow in them. This species is frequent
in America. 5. *B. nivea* is white, with yellow
feelers. It is a native of America. 6. *B. Suri-*
namensis is livid, and the breast edged with
white. It is a native of Surinam. Beside these
there have been added by Fabricius, Gmelin, &c.
viz. maderæ, Ægyptiaca, Occidentalis, Australasiae,
erythrocephala, Capensis, Indica, nivea, irrorata,
viridis, Brasiliensis, petiveriana, cincta, picta, va-
riegata, ruficollis, maculata, marginata, nitidula,
fusca, deusta, chlorotica, latissima, atterrma,

perspicillaris, Asiatica, schæfferi, sylvestris, Pennsylvanica, livida, rufa, grisea, minutissima, aptera, punctulata, ocellata.

BLATTA, in middle age writers, denotes a purple in the wool or silk, dyed with the liquor of the fish of the blatta. It was also used, according to some, for the kermes; and, according to others, for the purple worm.

BLATTA BYZANTINA, in physiology and pharmacy, a testaceous body, being the operculum, or lid of a turbinated shell, whose fish yields a purple dye. In Dioscorides's time, the best was brought from the Red Sea, viz. the palest and the fattest; the blacker and less from Babylon, or the Persian Gulf; but in later times they took up with those found about Constantinople; whence the present blatta of the shops had its name.

BLATTARIA, Tournefort's generic name for the verbascom of Linnaeus. See VERBASCUM.

BLATTARIE, from blatta, a moth or little worm; the title of Scopoli's twelfth natural class, in his Flora Carniolica.

BLATTER, } Lat. *blatero*, from *blatio*.
BLATTERATION, } Vossius derives it from
BLATTER'ON. } the Gr. *βλατον*, for *βλητον*,
cast, thrown forth; to roar; to make a senseless noise; babbling; chattering; blabbing; bolting out any thing.

For before it (the tongue) she hath set a pallsado of sharp teeth, to the end that if, peradventure, it will not obey reason, which within holdeth it hard, as if with a strait bridle, but it will blatter out and not tarry within, we might bite it until it bled again, and so restrain the intemperance thereof.

Holland. Plutarch.

She rode at peace, through his only pains and excellent endurance, however envy list to blatter against him.

Spenser.

I hate such blateroons.

Howell's Letters.

BLATUM. See BLADUM.

BLAU, a river of Germany, in the circle of Suabia.

BLAVET, a sea-port town of France, in the department of the Morbihan, and ci-devant province of Brittany, situated at the mouth of the river of that name. It was one of the stations of the royal navy of France, and called Port Louis, after Louis XIV.

BLAVIA, or BLAVIUM, in ancient geography, a town of Aquitain, on the north bank of the Garonne, below its confluence with the Dordogne, now called Blaye.

BLAYE, an ancient and strong town of France, in the department of the Gironde, and late province of Guienne. It is situated on the Garonne, has a harbour much frequented by foreigners, and the ships which sail to Bourdeaux are obliged to leave their guns here. The river is 3800 feet broad at Blaye; for which reason a battery was built upon an island in 1689, to command the vessels that sail up. The city is built on a rock, and has a citadel with four bastions, which is called the Upper Town. The lower town is separated from the upper by a small river; and the merchants reside in it. The trade of Blaye consists chiefly in wines and brandy. The neighbourhood produces a great deal of corn, which is also sometimes exported.

It is twenty miles north of Bourdeaux. Population about 4000.

BLAYNEY (Benjamin), D. D., was educated at Oxford. He was originally of Worcester College, but quitted it in 1787, on obtaining a fellowship at Hertford College. He resigned the latter appointment for a canonry of Christ Church, with the professorship of Hebrew annexed. He also enjoyed the rectory of Polshot, Wilts, which he held at his death, which took place in 1801. He very ably superintended the common version of the English Bible printed at the Clarendon press, 4to. 1769, (see BIBLE), and published, 1. A Dissertation by Way of Enquiry into the true Import and Application of the Vision related by Dan. ix., &c. 4to. 1784. 2. Jeremiah and Lamentations, a New Translation, with Notes Critical, &c. 8vo. 1784. 3. Zechariah, a New Translation, with Notes Critical, &c.; to which is added a New Edition, with Alterations, of the Dissertation on Daniel, 4to. 1797.

BLAZE', v. & n. } Ang.-Sax. *blæsan*, to
BLA'ZEN, } blow; Germ. *blasen*; Dutch,
BLA'ZING, } *blæsan*; to emit a flame,
BLA'ZURE. } like a blast; a flame;

blaze implies more the light than the heat; diffusion of light suddenly, widely, rapidly; metaphorically, applied to a rapid and wide diffusion of a report; to an account of ensigns armorial in proper terms; to any thing set forth conspicuously; ostentatiously.

But he went out, and began to publish it much, and to blaze abroad the matter.

Mark.

This lady brought in her right hond

Of brenning fire a blazing brand,—

Whereof the flame and hote fire

Hath many a lady in desire

Of loue brought.

Chaucer,

Utters of secrets he from thence debarred,
Babblers of folly, and blazers of crime.

Spenser.

And eke you virgins that on Parnasse dwell,

Whence floweth Helicon, the learned well,

Help me to blaze

Her worthy praise,

Which in her sexe doth all excell.

Id.

I cannot tell you what was this knightes name, nor of what countre, but the blasure of his armes was goules, two fusses, sable, a border sable.

Froissart. Cronycle.

When beggars die, there are no comets seen;
The heavens themselves blaze forth the death of princes.

Shakspeare.

The main blaze of it is past; but a small thing would make it flame again.

Id. Coriolanus.

Thy throne is darkness in the abyss of light.

A blaze of glory that forbids the sight.

Dryden.

What groans of men shall fill the martial field!

How fierce a blaze his flaming pile shall yield!

What funeral pomp shall floating Tiber see!

Id.

Thus you may long live an happy instrument for your king and country; you shall not be a meteor, or a blazing star, but stella fixa; happy here, and more happy hereafter.

Bacon.

The noise of this fight, and issue thereof, being blazed by the country people to some noblemen thereabouts, they came thither.

Sidney.

Such musick worthiest were to blaze

The peerless height of her immortal praise,

Whose lustre leads us.

Milton.

For what is glory but the blaze of fame,

The people's praise, if always praise unmist?

Id.

But, mortals, know, 'tis still our greatest pride
To blaze those virtues which the good would hide.

Pope.

Then glossy smooth lay all the liquid plain. *Id.*
This, in ancient times, was called a fierce; and
you should then have *blazed* it thus: he bears a fierce
sable between two fierce, or.

Peacham.

Those hearts that start at once into a *blaze*,
And open all their rage like summer storms
At once, discharged, grow cool again and calm.

C. Johnson's *Mædon*.

If of Dryden's fire the *blaze* is brighter, of Pope's
the heat is more regular and constant.

Johnson.

Slow sinks, more lovely ere his race be run,
Along Morea's hills the setting sun;
Not as in northern climes obscurely bright,
But one unclouded *blaze* of living light!
O'er the hush'd deep the yellow beam he throws,
Gilds the green wave that trembles as it glows.

Byron's *Corsair*.

BLAZEY BAY, a bay of the English channel,
on the south-west coast of the county of Corn-
wall, between Fowey and Deadman Point.

BLAZON, *n.* & *v.* } Fr. *blasonner*; general
BLAZON'ER, } applications the same as
BLAZON'RY. } *blaze*; to *blaze* and to
to *blazon* are the same, only that the latter is more
exclusively applied to the figures on ensigns ar-
morial.

O thou goddess,
Thou divine nature! how thyself thou *blazonest*
In these two princely boys! they as gentle
As zephyrs blowing below the violet,
Not wagging his sweet head.

Shakespeare.

One that excels the quirk of *blazoning* pens,
And in the essential vesture of creation,
Deos bear all excellency.

Id.

What is this but libelling against the senate,
And *blazoning* our injustice everywhere?

Id.

But this eternal *blazon* must not be
To ears of flesh and blood.

Id.

I am a gentleman.—I'll be sworn thou art;
Thy tongue, thy face, thy limbs, action, and spirit,
Do give thee five-fold *blazon*.

Id.

Proceed unto beasts that are given in arms, and
teach me what I ought to observe in their *blazon*.

Peacham.

Give certain rules as to the principles of *blazonry*.

Id. on *Drawing*.

King Edward gave to them the coat of arms,
which I am not herald enough to *blazon* into English.

Addison.

BLAZON, a market town of Austrian Galicia,
circle of Zolkien, with a Catholic and a Greek
church. There is also a village of this name in
the circle.

BLAZONING, or BLAZONRY, in heraldry, the
deciphering the arms of noble families. The
word originally signified the blowing or winding
of a horn; and was introduced into heraldry as
a term denoting the description of things borne in
arms, with their proper significations and intend-
ments, from an ancient custom the heralds, who
were judges, had of winding a horn at justs
and tournaments, when they explained and re-
corded the achievements of knights. See HE-
RALDRY.

BLEACH, *v. n.* & *adj.* } Ang.-Sax. *blican*,
BLEACH'ER. } *ablican*, *dealbare*;
Germ. *bleicken*; Dutch, *bleycken*; Swed. *bleka*.
To whiten; to whiten by exposure in the open
air; to grow white.

When turtles tread, and rooks and daws;
And maidens *bleach* their summer smocks. *Shakespeare*.
The white sheet *bleaching* in the open field. *Id.*

For there are various penances enjoined;
And some are hung to *bleach* upon the wind;
Some plunged in waters. *Id.*

And Turner, gay, up to his perch to march,
With face new *bleached*, smoothed, and stiff with
starch. *Marvell*.

The deadly winter seizes; shuts up sense;
Lays him along the snows, a stiffened corse,
Stretched out and *bleaching* in the northern b'ast.

Thomson.

Albeit unworthy of the prey-bird's maw,
Let their *bleached* bones, and blood, unbleaching stain,
Long mark the battle-field, with hideous awe. *Byron*.

BLEACHING.

BLEACHING is the art of discharging from
cotton, linen, woollen, and other goods, their na-
turally dark tinge, and rendering them white. It
is an art which has attended the very dawn
of civilisation in all parts of the globe. In
Egypt, India, and Syria, the efficacy of natron,
the nitre of Scripture, in this process, was evi-
dently known from a remote period; (Jer. ii. 22,) and Pliny states (lib. xviii. c. 51), that the an-
cient Gauls were well acquainted with the use
of a lixivium made from the ashes of burnt ve-
getables, as a detergent, and knew how to com-
bine it with animal oil, so as to form a powerful
soap. That in the eastern parts of the world this
art, like almost every other, should have remained
stationary for ages, will not occasion surprise;
but that, in enlightened Europe, a process so im-
portant should have been altogether neglected
by men of science, until within a very recent pe-
riod, seems astonishing. Such, however, is the
fact. Until towards the close of the last century

it had made little or no advances; and to Messrs.
Scheele and Berthollet, foreign chemists (par-
ticularly to the latter) is to be awarded the honor
of effecting a peaceful but entire revolution in
this ingenious art.

This is not now, therefore, the practice of
wetting cloths on the field, and trusting, with the
uncivilised Indian, to the sun and air, to accom-
plish the whiteness of them; but a process essen-
tially chemical, and calling into operation some
of the most splendid, because useful discoveries,
of a Thenard, a Watt, and a Davy. As the old
process is far from being entirely exploded,
however, in remoter parts of this country, and
because it will assist the reader in appreciating
the march of science upon this subject, we shall
treat in this paper, I. Of the old plan of bleach-
ing. II. Of the chemical substances now em-
ployed in that art. III. Of the machinery used.
And, IV. Of the principal improvements in the
modern mode of bleaching.

I.—OF THE OLD PLAN OF BLEACHING.

There are many materials which it is necessary to bleach previously to their being manufactured, and especially those of the more delicate kind, as silk for example, since they would not be able to endure the violence of several of the processes without injury to the tender woof. Such processes, however, do no injury to the strong texture of linen or hempen cloths, and hence they are uniformly woven before they are committed to the bleacher's hands.

Let us, however, follow up these materials from their simplest and rudest state. If ripe flax be examined, it will be found to be composed of fibres or filaments united together by the sap, enveloping a semiligneous substance, and covered with a thin bark. It is the fibrous part only that is used for making cloth, and it must therefore be previously separated from the other matters. The sap or succulent part is composed of extractive principle and water, and the first process is to separate this substance, which holds the filaments together. As soon as the flax is pulled, it is steeped in soft water until the putrefactive fermentation takes place. This degree of fermentation begins with the succulent part, as being more susceptible of decomposition than the rest. Were the flax to be continued long in this state the whole substance of it would be decomposed or destroyed, upon the same principle that malt is injured by too long steeping, or that wort loses its substance by too long a fermentation. It must therefore be taken out of the water while yet green, and before the whole of its sap is separated. Well water and brackish water must be carefully avoided, as also that which flows over gypseous soil. Such water accelerates putrefaction, and hurts the quality of the hemp and flax. This is perfectly agreeable to the principles of chemistry: it is thus that a little salt accelerates animal putrefaction, while a greater quantity tends to prevent it. The portion of saline substances taken up by the water hastens corruption, by extending the putrid fermentation even to the filaments, which it blackens and spoils, while it ought to operate only on the juices.

The flax, when taken from the water, is spread out upon the grass to dry. During the fermentation and decomposition which thence result, there is a speedy combination of oxygen and carbon. Exposure on the grass facilitates the escape of the carbonic acid into the atmosphere, and the plants become of a whitish-gray color. It is known that a lee very slightly alkaline may be substituted with advantage, for this long and noxious operation; it is therefore certain, that a chamber from twenty to thirty feet in length, into which the steam of alkaline caustic water, of the strength of one-fourth of a degree only, is introduced, will be sufficient to produce the same effect as watering on an immense quantity of hemp and flax, suspended on basket-work, in less time, and with less expense, than are required for the different manipulations of watering. The losses occasioned by the negligence of workmen, who, by suffering the hemp and flax to macerate too long, give time to the decomposition to reach the filaments, which renders them brittle, and occa-

sions a considerable waste, will also be avoided. In this process the artist can follow every moment the progress of his operation, and stop it at the favorable period. Nothing now remains but the wood, and the flax or fibrous part. The wood is a hollow tube covered over very compactly with the flax. To separate the wood, it must be kiln-dried, in order to render it frangible or brittle; but care must be taken not to apply too much heat, for fear of injuring the flax.

It is next to be beaten or broken, by which means the flax is not only divided into small fibres, but most of the wood is separated, and the part which adheres is reduced to small fragments. To separate these again, the flax is to be scutched, or threshed, in small parcels at a time, either by manual labor, or mills contrived for the purpose. Hackling is the last process; which is nothing more than drawing or combing the flax in small parcels at a time, through a pile or group of polished and sharp steel spikes, placed firmly in wood through an iron plate. The spikes are placed pretty close together: the first hackle (for different hackles must be used) is coarse, the second finer, and the third finer still. The process of hackling answers a double or triple purpose; first, it divides the fibres of the flax, as much as this can be effected by mechanical means; secondly, it separates the minute fragments of wood which escaped the process of scutching; and lastly, it separates the short coarse flax, commonly called tow.

Spinning and weaving are too well known to need description. The linen, as it comes from the loom, is charged with what is called the weaver's dressing, which is a paste of flour boiled in water; and as this is brushed into the yarn of the warp before it is woven, it is somewhat difficult to separate it when dry. To discharge this paste, the linen must be steeped in water for about forty-eight hours; when this extraneous substance undergoes a kind of fermentation, which does not extend to the substance of the linen itself, upon the same principle that the green sap is disengaged from the flax without injury to its texture. The linen being well washed after this fermentation, contains nothing that water can separate; it is of a grayish white color, although the fibres of which it is composed, when divested of every adventitious substance, are naturally very white. In this state the cloth is committed to the bleacher, and the process of whitening commences. Under the old system it consisted of the following series of operations: 1. Steeping and milling. 2. Bucking and boiling. 3. Alternate watering and drying. 4. Scouring or acidifying. 5. Soaping. 6. Starching and bluing.

1. *Of steeping and milling.*—Green linen, in the different changes which it has undergone, contracts a great degree of foulness. This is chiefly communicated to it by the matters used in the dressing, which should be effectually cleared off. The first thing therefore that is to be done in the bleach-field is to take off all that filth that is foreign to the flax, and might, in unskilful hands, be fixed in the cloth. This is the object of steeping, and to accomplish this end, the cloth is laid

in blood-warm water. A smaller degree of heat than that would not dissolve the dressing so soon : and a greater might coagulate and fix, in the body of the linen, those particles which we design to carry off. In a few hours the dressing made use of in weaving is dissolved, and mixed with the water; and as it had acquired some degree of acidity before application, it becomes a species of ferment. Each ferment promotes its own particular species of intestine motion; the putrid ferment sets in motion the putrefactive fermentation; the vinous ferment gives rise to the vinous fermentation; and the acid ferment to the acetous fermentation. That there is a real fermentation going on in steeping is evident from the air-bubbles which immediately begin to rise, from the scum also which gathers on the surface, and from the intestine motion of the whole liquor. That it must be the acetous fermentation appears from this, that the vegetable particles, already in part scoured, must first undergo this process. The consequence of this operation on the whole is, that the cloth comes out freed in a great measure from its superficial dirt, and more pliant and soft than it was before. The first question to be determined on these principles is, What are the most proper liquors for steeping cloth? Those which, by the old method, are used by bleachers are plain water; lee and water, equal parts; and rye meal or bran mixed with water: but they always make use of lee when they have it. After steeping, the cloth is carried to the putstock-mill, to be freed of all its loose foulnesses. While it presses gently, it also turns the cloth; which is continually washed with a stream of water. Care must be taken, however, that no water be detained in the folds of the linen, otherwise that part may be injured.

2. *Of Bucking and Boiling.*—This is the most important part of the whole process, and deserves a very nice examination; its design is to loosen and carry off, by the help of alkaline lixivia, that particular substance in cloth, which is the cause of its brown color. All ashes used in lee, pearl-ashes excepted, ought to be well pounded before they are put into the copper; for the marcroft and cashub are very hard, and with some difficulty yield their salt: as these two last contain a very considerable proportion of a matter which will in some degree tinge white cloth, and as this is dissolved much more by boiling than by the inferior degrees of heat, while the salts may be as well extracted by the latter, the water should never be brought to boil, and should be continued for some time longer under that degree of heat. The pearl-ashes should never be put in till near the end, as they are very soluble in water. If these salts were always of an equal strength the same quantities would make a lee equally strong; but they are not. Salts of the same name differ very much from each other. The Muscovy ashes become weaker every day, as every bleacher must have observed, till at last they turn quite effete. A decoction from them when new must differ very much from one when they have been long kept. Hence the necessity of some exact criterion to discover when lees are of an equal strength. The taste cannot serve, as that is so variable, cannot be described to another,

and is blunted by repeated trials. The proof-bail has been found to serve the purpose of the bleach-field sufficiently; and, by discovering the specific gravity, to show the quantity of alkaline salts dissolved. But it cannot show the dangerous qualities of these salts; for the less caustic and less heavy this liquor is, the more dangerous and corrosive it may be for the cloth. The third lee, which they draw from these materials by an infusion of cold water, in which the taste of lime is discoverable, appears plainly to be more dangerous than the first. The second lee, which they extract from the same ashes, and which is reckoned about a third in strength, when compared to the first, must be of the same nature; nor should it be used without an addition of pearl-ashes, which will correct it.

It is necessary that the cloth should be made dry before bucking, that the salts may enter into the body of the cloth along with the water; for they will not enter sufficiently if it be wet, and by acting too powerfully on the external threads, may endanger them. The degree of heat is a very material circumstance in this operation. As the action of the salts is always in proportion to the heat, it would appear more proper to begin with a boiling heat, by which a great deal of time and labor might be saved. The reason why this method is not followed appears to be this: if any vegetable or vegetable substance is to be softened and to have its juices extracted, it is found more proper to give it gentle degrees of heat at first, and to advance gradually, than to plunge it all at once in boiling water. This last degree of heat is so strong, that, when applied at once to a vegetable, it hardens instead of softening its texture. Dried vegetables are immediately put into boiling water by cooks, that these substances may preserve their green color, which is only to be done by hindering them from turning too soft. Boiling water has the same effect on animal substances; for if salt beef be put into it, the water is kept from getting at the salts from the outside of the beef being hardened. But if it be considered how much of an oily substance there is in the cloth, especially at first, which will for some time keep off the water, and how the twisting of the threads, and the closeness of the texture, hinders the water from penetrating, we shall find that if boiling water were put on it at once, the cloth might be liable in several parts to a dry heat, which would be much worse than a wet one. That the lees have not access to all parts of the cloth at first, appears plainly from this, that when it has lain after the first bucking, till all the lees are washed out, it is as black in some parts as when it was steeped: which must be owing to the discharge of the coloring particles from those places to which the lee has access, and to their remaining where it has not. It would seem advisable then, in the first bucking or two, when the cloth is foul, to use the lee considerably below the boiling point; that by this soaking or maceration, the foulness may be entirely discharged, and the cloth quite opened for the speedy reception of the boiling lee in the buckings which succeed. The lees should likewise be weakest in the first buckings, because then they act only on the more external parts;

whereas, when the cloth is more opened, and the field of action is increased, the active powers ought to be so too. For this reason they are the strongest after some sourings. In all coarse cloths, however, boiling is substituted in place of bucking. This species of linen cannot afford the time and labor necessary for the latter operation; and therefore they must undergo a shorter and more active method. As the heat continues longer at the degree of boiling, the lees used for the coarse cloth must be weaker than those used for the fine. There is not so much danger from heat in the coarse as in the fine cloth, because the former is of a more open texture, and will allow the lee to penetrate more speedily. In the closer kinds, however, the first application of the salts should be made without a boiling heat being used.

3. *Of alternate watering and drying.*—After the cloth has been bucked it is carried out to the field, and frequently watered for the first six hours. For if, during that time, when it is strongly impregnated with salts, it is allowed to dry, the salts approaching close together, and assisted by a greater degree of heat, increasing always in proportion to the dryness of the cloth, act with greater force, and destroy its very texture. After this time, dry spots are allowed to appear before it gets any water. In this state it profits most, as the latter part of the evaporation comes from the more internal parts of the cloth, and will carry away most from those parts. The bleaching of wax helps to confirm this; for it seems to whiten most when the last particles of water are going off. This continual evaporation from the surface of the cloth shows that the design of the operation is to carry off somewhat remaining after the former process of bucking. This appears likewise from a fact known to all bleachers, that the upper side of cloth, where the evaporation is strongest, attains a greater degree of whiteness than the under side. But it is placed beyond all doubt by experiment, which shows that cloth turns much lighter by being exposed to the influence of the sun, air, and winds, even though the salts have been washed out of it.

4. *Of souring, or acidifying.*—It is well known to all chemists that alkaline salts are convertible, by different methods, into absorbent earths. Frequent solution in water, and evaporation of it again, is one of these methods. The transmutation then of these salts, which are not volatilised or washed away, must be continually going on in the cloth under the alternate waterings and dryings of the former process: not much indeed after the first two or three buckings, because the salts, not having entered deep into the cloth, are easily washed off or evaporated. But when they penetrate into the very composition of the cloth and minutest fibres, of which the first vessels are made, they find greater difficulty of escaping again, and must be more subject to this transmutation. But if we consider the bleaching ashes as a composition of lime and alkaline salts, we must discover a fresh fund for the deposition of this absorbent earth. The common caustic, a composition of this very kind, soon converts itself, if exposed to the open air, into a harmless

earthy kind of powder. The effect of frequent buckings and bleachings is that of loading the cloth with this substance. It becomes then necessary to take it out. No washing can do that, because earth is not soluble in water. Nothing but acids can remove it. These are attracted by the absorbent earth, join themselves to it, and compose a kind of neutral imperfect salt, which is soluble in water, and therefore easily washed out of the cloth. The acid liquors used commonly have been butter-milk, which is reckoned the best, sour milk, infusion of bran, rye-meal, &c. kept for some days till they sour. Sour whey is thought to give the cloth a yellow tinge. The linen ought to be dried before it is put in the sour, that the acid particles may penetrate along with the watery, through the whole. A few hours after it has been there, air-bubbles arise, the liquor swells, and a thick scum is formed, and there is an increase of heat, manifesting signs of fermentation. Sours that are made of bran, rye-meal, &c. ought to be prepared before use, for by this means so much time will be saved. Besides, when the water is poured upon the cloth and bran, as is done in the management of coarse cloth, the linen is not in a better situation than if it had been taken up wet from the field; and by this means the acid particles cannot penetrate so deep. Again, this method of mixing the bran with the cloth may be attended with yet worse consequences. All vegetable substances when much pressed fall into the putrescent, and not the acetous, fermentation. This often happens to the bran pressed betwixt the different layers on the linen, which must weaken the cloth. Hence, all sours should be prepared before the cloth is steeped in them; and none of the bran or meal should be mixed with the cloth. The sours are used strongest at first, and gradually weakened till the cloth has attained to its whiteness. In the first sourings there is more of the earthy matter in the cloth, from the many buckings it has undergone, than what there can be afterwards. As the quantity of this matter decreases, so should the strength of the sour. There is not, however, the least danger at any time from too strong a sour. Dilute sulphuric acid is sometimes employed instead of vegetable acids.

5. *Of soaping and hand rubbing.*—After the cloth comes from the souring, it should be well washed in the washing-mill, to take off all the acid particles which adhere to its surface. All acids decompose soap by separating the alkaline salts and oily parts from each other. Were this to happen on the surface of the cloth, the oil would remain, nor would the washing-mill afterwards be able to clean it. From the washing-mill the fine cloth is carried to be rubbed by women's hands with soap and water. As the liquors, which are generally employed for souring, are impregnated with oily particles, many of these must lodge in the cloth, and remain, notwithstanding the preceding milling. It is probable that all the heavy oils are not evaporated by bleaching. Hence it becomes necessary to apply soap and warm water, which unite with, dissolve, and carry them off. It is observed, that if the cloth when it is pretty white get too much soap, the following bleaching is apt to

make it yellow; on that account they often wring out the soap. It is a matter worth enquiring into, whether it be better to use hard or soft soap for the cloth. Most bleachers agree that the hard is apt to leave a yellowness in the cloth; and it is said that hard soap is disused in Holland on this account. As there must be a considerable quantity of sea-salt in the hard, which is not in the soft soap, and as this salt appears prejudicial to cloth, the soft soap ought certainly to be preferred.

But the management of coarse cloth is very different in this operation from that of fine. Instead of being rubbed with hands, which would be too expensive, it is laid on a table, run over with soap, and then put betwixt the rubbing-boards, which have ridges and grooves from one side to another like teeth. These boards have small ledges to keep in the soap and water, which saves the cloth. They are moved either by hand, or by a water-wheel, which is more equal and cheap. The cloth is either drawn by degrees through the boards by men; or, which is better, the same wheel moves two rollers, with ridge and groove, so that the former enters the latter, and by a gentle motion round their own axis the cloth is gradually pulled through the boards. This mill was invented in Ireland about thirty years ago, and the Irish bleachers use it for their fine as well as coarse cloths. But the objections against these rubbing-boards are considerable. By rubbing on so unequal a surface the fibrous part of the cloth is worn; by which means it is much weakened. These boards also give the cloth a cottony surface, so that it does not long keep clean. They also flatten the threads, and take away all that roundness and firmness which is the distinguishing property of cloth bleached in the Dutch method. For these reasons they must be very prejudicial to fine cloth, and should never be used in bleaching it. As they seem to be in some measure necessary to lessen the expense of bleaching coarse linen, they ought never to be used above twice, or thrice at most. They might be rendered much more safe by lining their insides with some soft elastic substance, that will not wear the cloth so much as the wooden teeth do. Short hair has been tried in one instance, and was found to answer very well. When the coarse cloth has undergone a rubbing, it should be immediately milled for an hour, and warm water poured now and then on it to make it lather. This milling has very good effects; for it clears away all the dirt which the rubbing-boards have loosened, and which at the next boiling would have discolored the cloth; and besides that, it makes the cloth less cottony, and more firm than when whitened by the rubbing only.

6. *Starching and bluing*, which is the last operation in the process of bleaching, is too simple to need a particular detail, and is conducted in the common mode to which laundry-women are accustomed. It often happens, indeed, that the cloth, when exposed to the weather to be dried after this operation, gets rain, which undoes all again, and forces the bleacher to a new expense. To remedy this inconvenience, some bleachers very properly employ a dry-house,

where the cloth may be dried after this operation in any kind of weather.

This method of bleaching was formed on the theory of the coloring matter, of each fibre of the hemp or flax, entering into the minute filaments, of which they are composed. Some experiments of Mr. Kirwan have proved that this matter was chiefly resinous. Hence the first lee, or solution of potash, is supposed to act upon the external coating of these filaments, separating and exposing them to the action of the air, or rather to the acidifying principle with which it is impregnated, and which is known as oxygen gas. The second boiling in potash opens a second layer, and thus, successively, layer after layer, until the whole is divided, or opened to the centre. Were the solution of potash sufficiently strong to force its way at once to the centre, it would act upon the filaments themselves, and destroy the texture of the cloth.

Each filament, after the process of potash, retains an impregnation of coloring matter, so intimately united as to resist the further action of it. This can only be removed by the slow and gradual influence of the oxygen gas of the atmosphere. From the properties of oxygen gas and potash, their manner of operating is very obvious. The oxygen gas dissolves in each boiling a certain quantity of the coloring matter, with which it forms carbonic acid gas, and partly divides the filaments that eluded the action of potash. The carbonic acid gas, from its volatility, flies off and mixes with the atmosphere. Thus, alternately, the one dissolving, and the other burning out (for bleaching is slow combustion), the linen is whitened. Now to obtain this result by the common mode of the action of the oxygen of the atmosphere, requires a long period of time, in consequence of the necessity of a frequent repetition of the same process. To hasten this result, therefore, by a more manageable and concentrated application of oxygen, has been the uniform effort of every modern chemist who has turned his attention to this important art.

II.—OF THE CHEMICAL SUBSTANCES AT PRESENT EMPLOYED IN BLEACHING.

It will here be useful to take a brief view of the principal substances usually employed in this art; both those which have been continued from the former practice, and the new chemical agents adverted to. These are 1. Pot and pearl ashes. 2. Soda. 3. Soap. 4. Oxymuriatic acid. 5. Oxymuriate of lime. 6. Sulphuric acid.

Pearl and potash, as imported from America, is of three sorts, the first or best containing from sixty to sixty-five per cent. of real alkali, the remainder being sulphate and muriate of potash, muriate of soda, uncombined charcoal, and carbonic acid, mixed with about six per cent. of water. The second sort is inferior, and the third is sometimes largely and purposely mixed with common salt to give it weight. It is of course the bleacher's interest to procure that which contains the least of these adventitious salts. Pearl-ashes differ only from potash, in containing a greater quantum of carbonic acid, and forming a milder alkali, as it is termed. The strength of a solu-

tion made from either is generally ascertained by the hydrometer. But, as the salts are not always of a uniform degree of purity, other tests have been proposed on the principle of saturating these alkalies by an acid. The following is M. Berthollet's method. 'Sulphuric acid,' he says, diluted with water till it is brought to a determinate point of concentration, answers well. By saturating a certain weight of this dilute acid with a fixed weight of fine pure chalk, dried by the heat of boiling water, the standard may be fixed. This acid is the one most readily to be had, and whose constitution is most uniform. The chalk selected for determining its concentration is a substance equally common; it does not present the difficulties which occur in procuring pure potash, and the temperature of boiling water, employed for drying it, can be very easily observed with precision. To avoid the embarrassment attending the preparation of standing acid, a quantity of it sufficient for the trials of many years may be made at once.

Were these analyses made on pieces of potashes, taken at random from the barrels, only ambiguous results would be got, because in the same barrel there are often different qualities. The experiment should, therefore, be made only on solutions prepared on the great scale as lees, and always with the same weights of alkali to the same number of measures of water. The most expeditious manner of making these solutions in the cold, is to suspend the potash at the surface of the water in a vessel of iron, pierced with a great number of holes, or formed of coarse iron wire. They should not be drawn off till we are certain that the whole potash is dissolved, and till by agitation the liquid is rendered uniform. Besides these circumstances, the assay of potashes requires slips of paper stained with litmus, or any other color equally sensible to acids, as that of mallows, radishes, &c. We should also procure a glass rod, a small glass measure, and lastly, a tube having as many times the capacity of the small measure, as measures of water have been employed to one quintal of potash.

We fill the tube with the solution of potash, and transfer it into the goblet. We next fill the same tube with the test acid, which is also poured into the goblet; we agitate with the glass rod, and then draw a trace on one of the slips of stained paper with the extremity of this rod moistened with the mixture. If the trace do not become red, we add to the goblet a small measure of the test acid, stir, and then make another trace on the paper, alongside of the former. If the color of the paper be not now changed, we add one measure of acid more, and continue thus till the last drawn trace is red.

If we wish to compare the qualities of several potashes, it is obvious, that we must regard as the best that which has required the greatest number of measures of acid to produce a red streak, since it is the one which saturates most acid. It is also obvious, that we might express numerically the qualities of the different species of potash, representing them by the number of measures of acid which each of them has satu-

rated; which amounts to counting the traces formed on the paper in each trial, taking the first for as many as the tube contains of little measures, and adding unity for each of the following marks till the last, which we should not reckon, because its color indicates that we have passed the term of its saturation.

Another method has been suggested by Dr. Higgins of Dublin: to take a given quantity of the alkali, and dissolve it in twice its weight of boiling water, stirring the mixture during the solution of the salt; while yet warm, it must be filtered through unsized paper. When all the liquor has passed through the filter, a very small quantity of cold water is gradually poured on the saline residuum on the filter, in order to wash out the remainder of the alkali. The undissolved salt, remaining on the filter, is sulphate of potash, which must be carefully taken off, dried, and weighed, in order to ascertain its quantity. To determine whether any common salt is contained in the alkali which has been filtered, evaporate the clear solution a little in a sand-bath, and set it in a cool place for twenty-four hours; at the end of which time, any common salt it may contain, will be found crystallised in the form of regular cubes at the bottom of the vessel. The sulphate of potash and common salt being dried, weighed, and deducted from the weight of the crude alkali employed, will give the precise weight of the pure alkali it contains. Carbonate of soda, or the mineral alkali, is also sometimes used as an agent in bleaching. Little difference is observable between its effects to those of the vegetable alkalies, when the strength of the alkaline-lees and other circumstances are the same. As a detergent it is well calculated for the finishing of the finer fabrics of muslin; it being ascertained that six ounces of pure carbonate of soda, mixed with ten ounces of soap, produce effects in bleaching equal to one pound and a half of soap, when used by itself.

The barilla, as imported from Spain, is in large masses, of a dark gray color, and usually contains about twenty-three per cent. of pure alkali, never more than thirty-three. The rest of the mass is charcoal, and common salt mixed with sulphate and sulphite of soda.

M. Descroizilles employed for many years the test suggested above, of saturating a given quantity of alkaline salt with diluted sulphuric acid, and has given the following table of the mean result:—

	Real Alkali In 100 Parts.
Best American pearl ashes . . .	60 to 73
Caustic ditto pot-ashes in reddish lumps . . .	60 63
Second ditto ditto in gray lumps . . .	50 55
Second ditto pearl ashes . . .	50 55
White Russian pearl-ashes . . .	52 58
White Dantzic ditto . . .	45 52
Alicant barilla . . .	20 33
Inferior kinds of barilla . . .	10 15
Natron . . .	20 30
Salt of tartar of the shops . . .	72

Mr. Karwin gives the following table of the compositions of salts:—

	Alkali.	Acid.	Water.
Crystallised carbonate of potash	41	43	16
Ditto carbonate of soda	21½	14½	64
Ditto ditto desiccated	60	40	

Soap we need not here dwell upon; the best white and soft soaps are those most commonly used.

The great modern agent used in bleaching, and that which has given all its celebrity and facility to the new plan, is oxygenated muriatic acid. Berthollet thus describes it:—

Muriatic acid, the marine acid of the old chemists, and the hydrochloric of the modern French school, combines with oxygen, and thereby assumes the properties of oxygenated muriatic acid; but, to make this combination effective, the oxygen must have lost its elastic state. Thus it exists in the oxide of manganese (manganese of commerce) in very considerable quantity. When, therefore, one part of oxide of manganese is mixed with four parts of the fuming, or six parts of ordinary, muriatic acid, one portion of the acid combines with the oxide of manganese, with the disengagement of the oxygen superfluous to this combination, which, combining immediately with another portion of the muriatic acid, thus forms the oxygenated muriatic. The operation is promoted and completed by the action of heat. The oxygenated muriatic acid assumes on its separation the gaseous state, when it is soluble in water. The resulting liquid is of a greenish-yellow color, and of a very penetrating odor. If the temperature approaches that of freezing water, the oxygenated muriatic acid gas becomes concrete, and adheres to the tube which conducts it into the water, whence it precipitates, so that the liquid is less impregnated than at a somewhat higher temperature.

It is easy to show that the oxide of manganese contains much oxygen; for, on urging it with a strong fire, it evolves a great quantity; after which, the oxide can produce but very little oxygenated muriatic acid. We may be easily satisfied also of the existence of oxygen in the oxygenated muriatic acid. We have only to expose to the light of the sun a phial filled with the above liquid, from which phial a bent tube dips under a receiver filled with water. Bubbles of air are soon disengaged, which pass into the receiver, constituting an elastic fluid, which possesses all the properties of pure air or oxygen gas. When these bubbles cease to issue, the liquid has lost its odor, color, and all its distinctive properties. It is now water impregnated with ordinary muriatic acid. The composition and decomposition, therefore, equally prove, that oxygenated muriatic acid is simply a combination of muriatic acid and oxygen. But this speedy decomposition by light shows, that the oxygen very readily abandons the muriatic acid, either to assume the elastic state, or to enter into other combinations; and it is on this that the characteristic properties of oxygenated muriatic acid depend.

If vegetable colors be plunged into oxygenated muriatic acid, they disappear more or less quickly; and when there is a mixture of different coloring particles, some disappear more

readily than others, the whole, however, being more or less affected. When the oxygenated muriatic acid has thus exhausted its action, it is found to be reduced to the state of ordinary muriatic acid; the coloring particles have, therefore, abstracted its oxygen. If we evaporate the liquid, in order to examine the state of the coloring particles, we find that it yields a blackish residuum, as if its particles had suffered a slight combustion. It is in this way also that colors are more or less speedily destroyed by the action of the air, especially when it is promoted by the solar beams. Hence, the oxygenated muriatic acid easily and quickly produces the effects which air and light operate in a longer space of time, because the oxygen, deprived in part of its elasticity, and adhering loosely to the acid, enters readily into combination with the substances for which it has an affinity.

Other methods of procuring the oxygenated muriatic acid have been adopted. A very common one is to take equal parts, by weight, of common salt and manganese, intimately mixed together. Some bleachers moisten the mixture with water, to the consistence of a thick paste, so that the dissolved salt may incorporate more intimately with the manganese. An equal weight of sulphuric acid is then taken as of the other materials, which is diluted with its bulk of water, and allowed to cool before being poured into the retort on the combined salt and manganese. The charge for the distillation thus consists of equal parts of salt, manganese, and sulphuric acid, diluted with an equal bulk of water. This is the method in the neighbourhood of Glasgow.

In Ireland the proportions are generally said to be:

Manganese	6 parts
Common salt	6 parts
Sulphuric acid	5 parts
Water	5 parts.

In Germany and France:

Manganese	20 parts
Common salt	64 parts
Sulphuric acid	44 parts
Water	54 parts.

For the happy discovery of the advantages of this mode of bleaching we are indebted to an accidental circumstance. The celebrated Scheele, as we have intimated, while employed in making experiments on manganese, about the year 1774, noticed its powers in rendering vegetable substances colorless. This he communicated to Berthollet in France, about the year 1786, and the latter lost no time in applying the properties of this curious substance to the most important practical purposes. In 1789 he published his experiments on the application of it to the bleaching of cotton and linen cloth: Mr. Watt of Birmingham, we believe, having previously been made acquainted with it by that distinguished chemist. The new method of bleaching was now quickly and successfully introduced into manufactories at Valenciennes, Rouen, and Courtray; then into those of Manchester and Glasgow; and it has since been generally adopted in Great Britain, Ireland, and throughout Europe.

But oxygenated muriatic acid used alone was soon found to weaken the texture of the cloths,

and its vapors were suffocating. An addition of alkali to the liquor was now tried, and potash became generally used for that purpose. This relieved the workman, by depriving the acid of its vapors, without destroying its bleaching powers. Yet it diminished them; and the potash, which was all lost in the process, was very expensive. An oxymuriate of lime was therefore proposed to be used, in 1798, by Mr. Tennant of Glasgow. He demonstrated that the oxymuriatic acid would combine with the alkaline earths, lime, barytes, or strontites, and form oxymuriates easily soluble in water. To obtain it, it is merely requisite to pass the gas, as it is disengaged, through slaked lime till it be saturated. This lime is afterwards dissolved in a certain proportion of water, which solution is then ready to be employed. In regard to this employment of lime, Berthollet observes, the oxygenated muriate of lime has one advantage over the lixivium of Javelle (the oxygenated muriate of potash or soda), from the great difference of price between lime and potash or soda; and its state of condensation, and desiccation, renders its carriage less expensive. But it has also the inconvenience of transforming a portion of the oxygenated muriatic acid, and of containing superoxygenated muriate, which cannot be indicated in this combination by nomenclature, which is precise only with regard to very uniform combinations: it appears even that the proportion of superoxygenated muriate is considerable: for if, after expelling by a slight degree of heat the oxygenated muriatic acid which had retained its properties, the remaining substance be examined, it is found no longer to produce discoloration; and if it be urged with a stronger heat in this state, much oxygen gas is disengaged. Welter tells us, that in his comparative experiments he had observed, that the gas condensed by lime produced only one-tenth of the effect which may be obtained when it is received in water. The use of the oxygenated muriate of lime must therefore be disadvantageous; but it may be convenient for certain purposes, from the facility of carriage and preservation, where the economy of the process is of secondary consequence. Under this point of view it merits the commendation which it has received.

The addition of sulphuric acid to the solution of the oxygenated muriate of lime, increases the effect, by the decomposition of the superoxygenated muriate; but to produce this effect fully, a quantity of acid is required, which might become dangerous. These objections do not apply to the addition of chalk, which has been recommended by Descroizilles, of which he makes use in his elegant manufactory. Its value is very trifling; and although our experiments appear to prove that it somewhat lessened the total effect of the oxygenated muriatic acid, yet this diminution is so small that it may be neglected. Hence, though the process with the simple oxygenated muriatic acid may be executed without inconvenience, there is no harm in employing the addition of chalk, so as to repress the greater part of the odor. We even recommend not to omit its use, whenever persons are not very well instructed in conducting the operations with the customary attentions which are required.

The oxymuriatic acid has since been combined by Mr. Tennant with lime in the dry way, for which improvement he justly received another patent. A great saving is thus made by the bleacher in the expense of the alkali; the improvement in fact constituted almost another new era in the history of bleaching. The concrete oxymuriate of lime is diffused in water by agitation, and the insoluble matter is allowed to settle until the liquor becomes clear.

In the Quarterly Journal of Science and the Arts, for July, 1822, Dr. Ure has published a paper on the composition and manufacture of chloride of lime, where the proper proportions of the ingredients employed in its formation are investigated. 'When a mixture of sulphuric acid, common salt, and black oxide of manganese,' says he, 'are the ingredients used, the absolute proportions are:

1 atom muriate of soda,	7.50	29.70	100.00
1 atom peroxide of manganese	5.50	21.78	73.30
2 atoms oil of vitriol (1.846 sp. gr.)	12.25	48.52	163.30
	25.25	100.00	336.60

And the products ought to be			
Chlorine disengaged	1 atom,	4.5	17.82
Sulphate of soda	1	9.0	35.64
Protosulphate of manganese	1	9.5	37.62
Water	2	2.25	8.92
		25.25	100.00

'These proportions are, however, very different from those employed by many, nay, I believe, by all manufacturers; and they ought to be so, on account of the impurity of their oxide of manganese. Yet making allowance for this, I am afraid that many of them commit great errors in the relative quantities of their materials.

'From the preceding computation it is evident that one ton of salt, with one ton of the above native (impure) oxide of manganese, properly treated, would yield 0.59 of a ton of chlorine, which would impregnate 1.41 ton of slacked lime, producing two tons of bleaching powder, stronger than the average of the commercial specimens; or, allowing for a little loss, which is unavoidable, would afford two tons of ordinary power, with a little more slaked lime.'

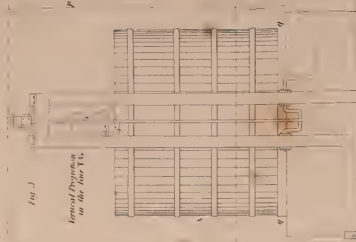
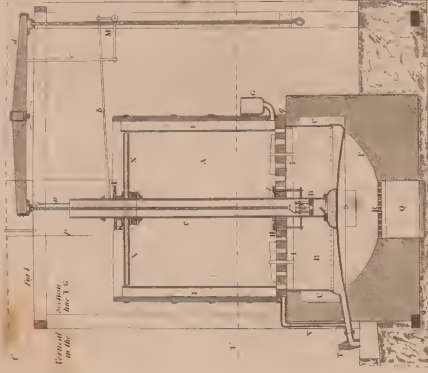
I have lately analysed, says this excellent chemist in his new edition of Berthollet on Dyeing, two samples of recently made bleaching powder, made by two eminent manufacturers, one in Scotland, the other in England, and found the composition as follows:

Chlorine	18.00	16.7
Lime	37.00	31.3
Muriate of lime	28.50	29.0
Water	16.50	23.0
	100.00	100.0

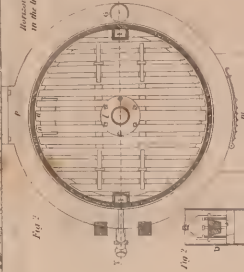
The above quantity of lime is associated or mixed with the chlorine. The muriate of lime (chloride of calcium) is formed in the process, and is a product very disadvantageous to the

BLINDING.

PLATE III.



Horizontal Section in the line V G



Horizontal Section in the line V G

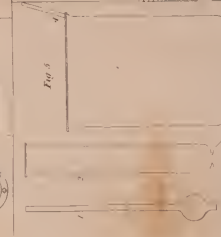
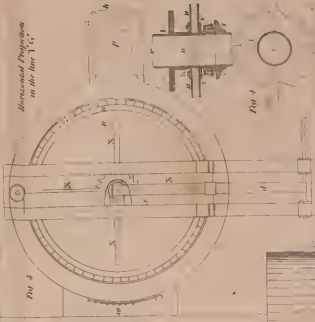


Fig. 4



Scale of 4 feet to the inch, in the line V G

Scale of 4 feet to the inch, in the line V G

BLEACHING.

PLATE II.

Fig. 1.

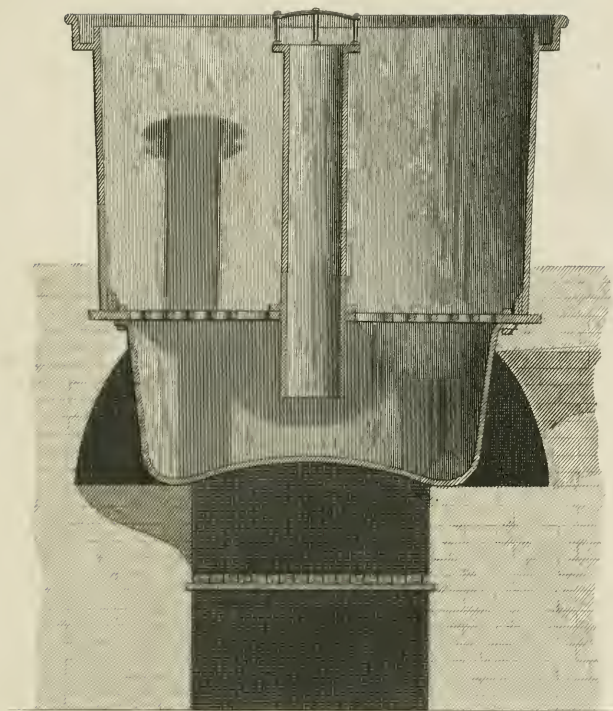


Fig. 2.

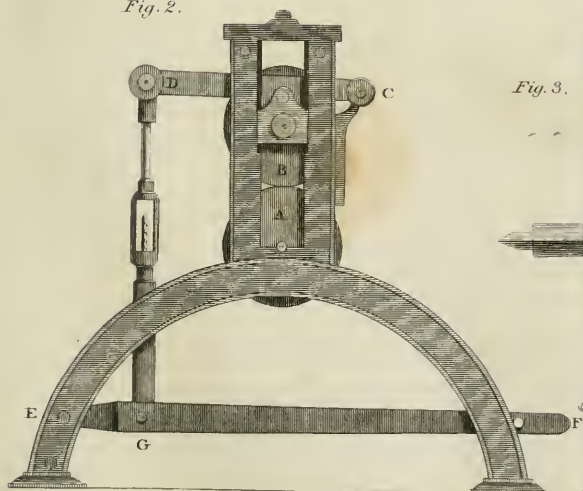
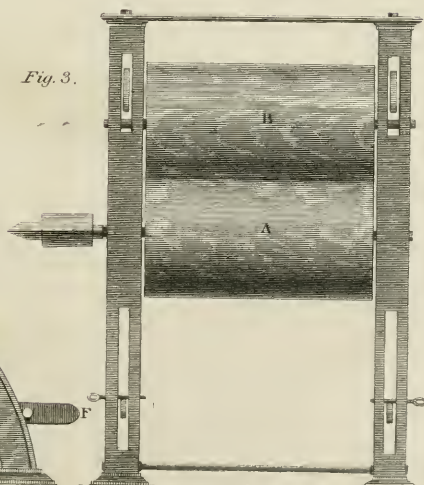


Fig. 3.



J. Shury, sc.

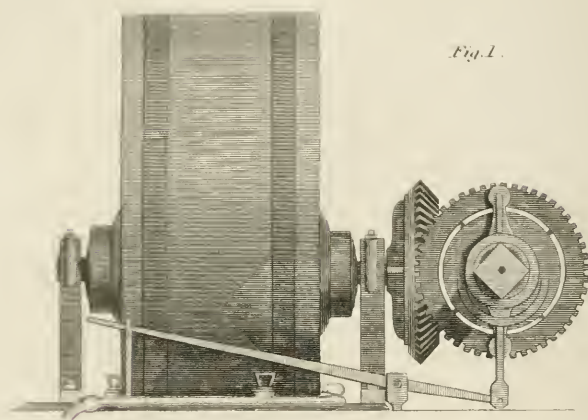
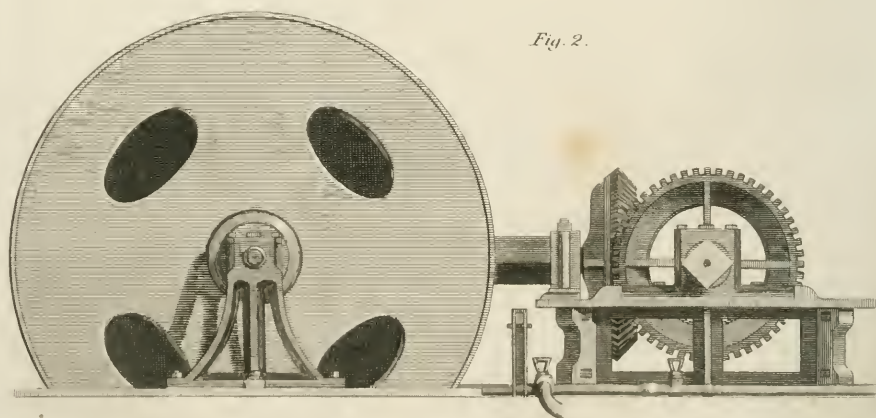
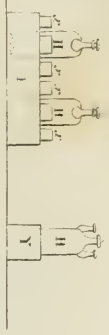
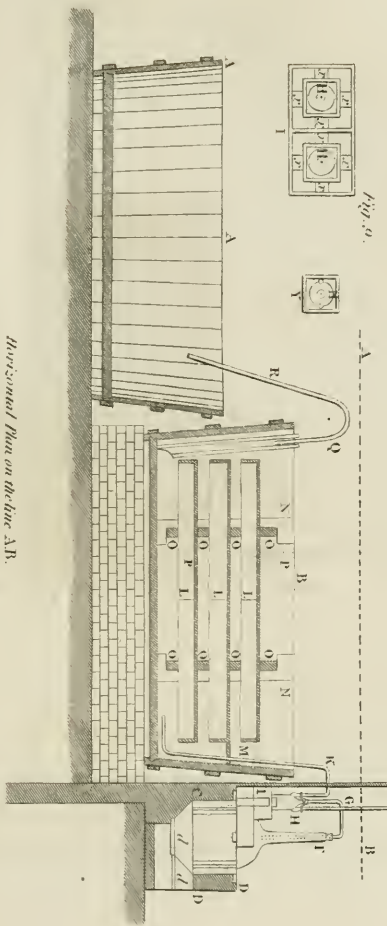
*Fig. 1.**Fig. 2.*

Fig. 10.



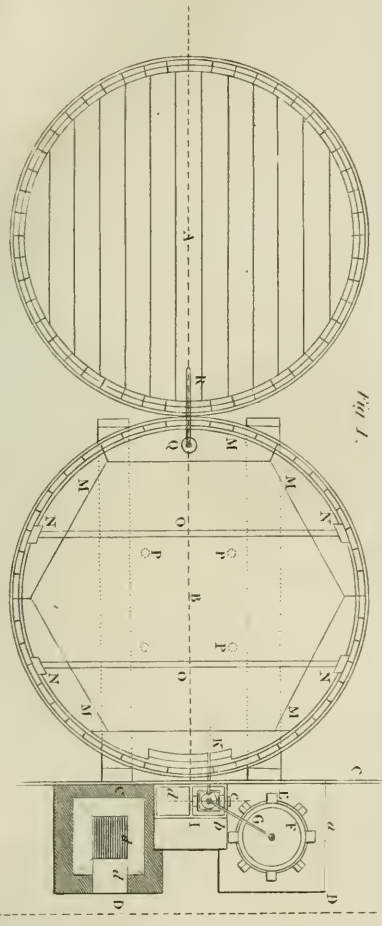
Vertical Section in the line A B and C D.

Fig. 2.



Horizontal Plan on the line A B and Section of one of the furnaces in C D.

Fig. 1.



Vertical section in the line D H.

Fig. 3.

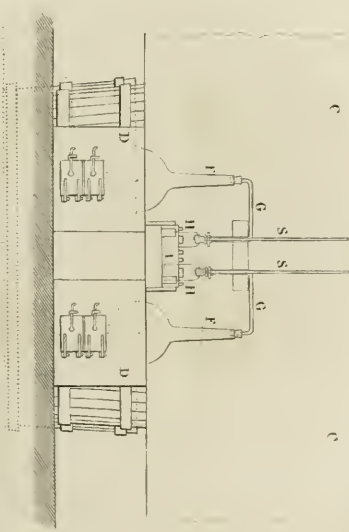


Fig. 4.

Vertical Section of one of the Furnaces according to A B and C D.

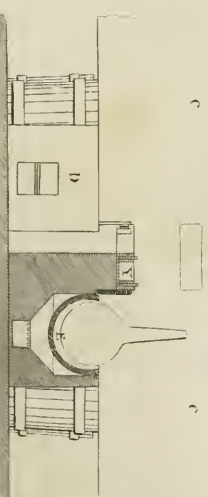


Fig. 5.

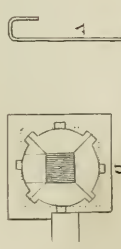


Fig. 6.



Fig. 7.



manufacturer, since it takes up about one-half of his chlorine unprofitably, and adds a compound to his powder, probably injurious to the bleacher. Bleaching powder may be formed, which contains no appreciable proportion of the muriate of lime, as I have shown in the above memoir. By proper management the manufacturer of chloride of lime might therefore double his useful product at scarcely any additional expense.

Sulphuric Acid, or oil of vitriol, when pure, is a colorless fluid, without smell, and slightly viscid. The specific gravity of the sulphuric acid of commerce is generally 1850, about twice the weight of distilled water, but the French chemists make it 2.2553 or more. The manufacture of it is now carried on to a great extent in Great Britain. It is sometimes adulterated with lead, and supersulphate of potash; a portion of the former being taken up during its formation, in chambers of that metal; hence a white precipitate is often found in the bottom of the bottles containing it.

In popular language, sulphureous acid, may be said to be a solution of sulphur in oxygen, which doubles the weight of this gas, without

augmenting its bulk. It obviously, therefore, consists by weight of equal quantities of the two constituents. Its equivalent will either be $2 \text{ oxygen} + 2 \text{ sulphur} = 4$; or $1 \text{ oxygen} + 1 \text{ sulphur} = 2$. Now the analysis of sulphite of barytes by Berzelius gives 209.22 base to 86.53 acid; which being reduced, presents for the prime equivalent of sulphureous acid, the number 4. See SULPHURIC ACID.

III. OF THE MACHINERY USED IN BLEACHING.

This of course must be principally regulated by the scale and kind of business carried on. No pursuit has better paid for the introduction of scientific machinery, when it has been carried to any considerable extent; and, where heavy cotton cloths or linen are whitened, it requires considerable aid from machines. Amongst them a water wheel of sufficient power to give motion to the dash wheels, or wash stocks, rollers, or squeezers, &c. is conspicuous.

2. *Wash Stocks* are assistants in turning and washing the linen, now almost exploded; but the following diagram will show the construction:

Fig. 1.

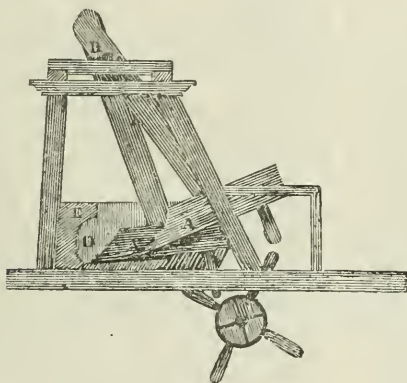


Fig. 2.

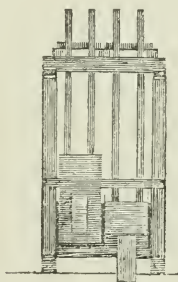


Fig. 1. is a front and fig. 2. a side view of this invention. A, A, are the stocks or feet, suspended on iron pivots at B, and receiving their motion from wipers on the revolving shaft C. The cloth is laid in at D, and by the alternate strokes of the feet, and the curved form of the turnhead E, the cloth is washed and gradually turned; while a stream of water rushes on the cloth through holes in the upper part of the turnhead. These machines are often found in the bleaching grounds in Scotland and in Ireland; and are sometimes made with double feet, suspended above and below two turnheads, and wrought with cranks. They perform from twenty-four to thirty strokes per minute.

2. A more preferable and scientific mode of accomplishing this object is found in the use of the dash wheel, plate I. figs. 1 and 2. The pieces of cloth are put into the quadrantal compartments of the wheel, into which a stream of pure water flows through a circular slit in its posterior surface. By the rotation of the wheel, the cloth is dashed backwards and forwards between the quadrantal partitions. Twenty-five revolutions per minute is the proper speed of a wash wheel, six feet in diameter. Some persons

suppose them to perform better with twenty-six or twenty-seven revolutions. But any considerable deviation from this velocity either impairs the utility of the machine, or destroys its functions altogether. The parts are so distinctly delineated by the artist, as to supersede the necessity of letters of reference and minute explanations.

Squeezers are rollers, represented in plate II. figs. 2 and 3, whose motion draws the cloth between them, after it has passed the dash-wheel. I have here given one constructed by Parkinson of Manchester. A is the lower roller. B the upper roller. C D a lever which presses upon the brass of the upper roller. F E another lever to increase the power connected with C D. The extremity of F is kept down by a pin: in some cases a weight is used instead of it.

Plate II. fig. 1. is a bucking boiler, and exhibits the fire-place, the iron boiler, surmounted by the wooden crib, with its grated bottom, and the central iron pipe.

We come now to the most important articles of the bleachers' establishment, the apparatus for obtaining the oxy muriatic acid. This is represented in plate III.

Fig. 1. is a horizontal projection according to the line A B', and a section of one of the furnaces according to C D. A, tub of immersion. B, receiver. M, M, M, M, M, plates which close exactly the space between the upper shallow tub, and the sides of the receiver. Only the side looking to the furnace is left open. Q, pipe into which the syphon for running the acid into the immersion tub is introduced. O, O, cross pieces which support the shallow tubs, and are fixed into the extremities, N, N, N, N, of four uprights. K, circular groove cut out in the plate, which closes the space between the second shallow tub and the side of the receiver, for the passage of the conductor tubes, one of which is traced in the figure. C, C, partition which separates the receiver from the furnaces. D, plan of a furnace, of the boiler E, serving for a sand bath, and of the matress F, which communicates by the tube G with the intermediate bottle H, enclosed in its double box I: in the furnace, round the sand bath, and opposite each angle, channels have been cut, which serve as chimneys and registers. A section of the second furnace D is made at the height of the fire-place, that the grate *d* may be perceived, and the plate of iron *d'*, which separate the fire-place from the ash-pit.

Fig. 2. Vertical section of the receiver, and of the immersion tub, according to the lines A B and C D. L, L, L, shallow tubs, separated from each other by the cross pieces O, fixed on the uprights N. The space between them and the sides of the receiver is closed by the plates M, M, M, so as to leave a free space, but on sides alternately opposite; that is to say, from the side of the furnaces to the inferior shallow tub, as also to the superior, and on the side of the immersion tub, to the middle shallow tub. P, P, P, tubes which allow the gas to pass from one shallow tub to its superior, when it contains a stratum of it, equal to the length of these tubes. The tube of the upper shallow tub is made long enough, as is shown, to disperse the gas, which being undissolved in the water, would be diffused in the air, and annoy the workmen. K, conductor tube, which proceeds from the intermediate bottle, and terminates under the lower shallow tub. Q, pipe which communicates down to the bottom of the apparatus, in order that the syphon R may conduct the most concentrated acid (aqueous chlorine) into the immersion tub. S, tube of safety. D, elevation of the furnace provided with all its distillatory apparatus.

Fig. 3. The vertical projection of the two distillatory apparatuses, according to the line D, D. The letters indicate the same objects as in the two preceding figures.

Fig. 4. The vertical section of a furnace, and of one of the boxes, with a view of showing its internal form, and the position of the sand bath.

Fig. 5. Plan of a furnace without a sand bath.

Fig. 6. Plan and elevation of the boiler serving as a sand bath. Fig. 7. F, matress; T, cork of the matress. Fig. 8. V, small syphon to draw out the air from beneath the shallow tubs. Fig. 9. I, box, with two square cells, serving to contain the intermediate bottles, drawn on a double scale. Y, small box, which encloses the bottle held in one of the cells, by the corners X, X, X, X. Fig. 10. Elevation of the same box, fur-

nished with its two bottles. Plan and elevation of the small boxes Y.

Plate IV. fig. 1, 2, 3, 4, represent the apparatus for the running off lees. The same letters serve for the same objects in these different figures.

Fig. 1. Vertical section of the apparatus. A, tub. B, boiler, the bottom of which is concave, and provided with a stop-cock T. On the pipe to which this stop-cock is attached, a socket is soldered, into which the glass tube V enters, that communicates by another kneed socket with one of the wooden pipes F, which afford passage to the steam. This tube serves to show what height the liquor rises to in the boiler. The bottom of this is sustained on the edges of the interior masonry of the furnace, except in the part corresponding to the aperture S, through which the smoke passes off. Its edges are turned back on the masonry for receiving the tub, they are then raised round it, in order that the vapor and the liquid may not find an outlet between the tub and the boiler. H, grating of deal, the ribs of which rest at their ends on the edges of the masonry of the furnace, and which are supported by two bars. I, connected with the grating by four copper straps, which bear upon the corners. D, body of the pump. It has at its lower part an inverted cup, pierced with small holes, to prevent in the aspiration (sucking), the introduction of bodies, which might hinder the valves from shutting, or might scratch the body of the pump. It is prolonged by a thin copper pipe, C, which, at the upper part of the tub, carries a copper heel, on which the cylinder of copper, K, rests. This cylinder stands on four castors. It carries four sockets, to each of which an arm, X, X, is adjusted, of a length equal to the diameter of the tub, and pierced with holes, like the bulb of a watering pot. In order that the lee raised by the pump may be diffused, the pipe of the pump is perforated in like manner with small holes, in the whole portion which corresponds to the copper cylinder; and, in order that the lee may not run off by the bottom of this cylinder, it presses exactly at this part on the pipe of the pump. The arms X are fitted on like the bayonet to the muzzle of a musket; they are taken off, for the introduction and removal of the cloths. The cylinder is terminated by a ratchet wheel L, the number of whose teeth should be a prime number, in order that having no exact divisor, the arms may not be periodically brought back to the same positions. The ratchet L is set in motion by a rod *a*, hooked to one of the pieces of wood that form the frame-work, on which the balance-beam *d* of the pump rests, and fixed very freely by a pin to a horizontal rod *b*. This rod is fixed in like manner by its other extremity, to one of the branches of a bell movement M, whose other branch communicates by the rod *c*, with the balance-beam. Hence, on turning the handle *e*, every movement of the balance-beam is communicated to the rods, and onwards to the ratchet, which, for each stroke of the piston, percurs the space of one tooth. The body of the pump D, and the pipe C, are joined by two straps and screws. Under these straps passes an iron collar, traversed by six bolts, whose screwed ends are fixed with nuts to a copper platform placed

on the grating. By this means the pump rests on the grating, and bears no weight on the bottom of the boiler. The pipe C is also held fast at its upper end by an iron strap, adapted to and fixed on the cross bar *f*. G represents the copper funnel, by which are introduced the solution of potash, and the waters necessary for the lixivium. It terminates in one of the tubes F, to prevent the solution of potash spouting out on the adjoining pieces. P indicates the form of the fire-place, the grate being at R, and the ash-pit at Q. The smoke issues by the aperture S, of which only half the altitude is seen here; it circulates by the flue U round the boiler, entering then into the tube of the chimney, which rises vertically.

Fig. 2. Horizontal section of the tub taken above the platform of copper *l*, on which are fixed by nuts the six bolts which support the body of the pump. *m*, furnace door. The dotted lines *nn*, indicate the separation formed by fire bricks, in the flue which runs round the boiler, and which determines the entrance of the smoke into this passage, as well as its issue into the vertical pipe *p*.

Fig. 3. Vertical projection of the apparatus taken in another direction. *h*, register, with which the chimney *p* ought to be furnished. *g*, rim of the boiler turned up on the outside of the tub.

Fig. 4. Horizontal projection of the apparatus, according to the line T'G''.

Fig. 2. V, horizontal projection of the body of the pump, in which the details of the adjustment of the piston are represented. D, vertical section of the body of the pump; R, clack valve. S, piston; T, cup attached by a strap to the lower extremity of the body of the pump.

Fig. 4. Horizontal projection, and vertical section of the cylinder K, which bears the sockets to which the arms XX are adjusted. C, copper pipe, to which is soldered the heel *x*. *y, y*, brass castors which rest on the heel *x*, and which support the cylinder K. *u, u, u*, sockets, having an opening for receiving the knob soldered to the extremity of the arms. L, ratchet wheel fixed, to the upper part of the cylinder K. It contains in the figure seventeen teeth. These two figures have been made on a double scale, in order that the details might be better understood. The apparatus for the oxygenated muriatic acid, and for the running off of lees, are on the same scales.

N. B. To avoid embarrassing the figures, a small plank is not represented here, which when the apparatus is constructed on as large dimensions as the present, should be placed at about two metres (yards) from the ground, for throwing the goods upon, and from which a child can hand them to the workman, who arranges them in the tub.

Fig. 5. Vessels for the testing of potashes. 1. Small measure; it is filled by plunging the bulb into the liquid, and stopping the tube with the finger whenever it is full. It may then be carried without fear of losing what it contains. To make it flow, the finger has only to be lifted. 2. Tube, containing up to the mark fifty times the small measure. 3. Goblet or jar in which the mixture of the test acid is made, and the solution of potash. 4. Tube employed for stirring, and

making the traces on stained paper. For the trial of the oxygenated muriatic acid, the small measure is filled with the solution of indigo, which is poured into a glass jar of the same form as the above, or into a glass tumbler; then the number of measures is introduced that are required for discharging its color.

Fig. 6. Ordinary distribution (arrangement) of the mode of running off lees. 1. Tub, on whose bottom a wooden grating is placed, or some simple pieces of wood, which prevent the cloths, when heaped, from choking up the aperture of the pipe 3, by which the lee falls back into the boiler. 2. Boiler, here represented cut vertically through its diameter, in order to see its form. Those usually employed are different, and do not possess the advantage which the present one does, of directing the liquid, which spouts up, when the ebullition is brisk, towards the middle of the boiler. It has been, moreover, represented as mounted on a furnace different from those which the bleachers usually construct. Its construction is nearly the same as that of the furnace of

Fig. 1. The form of this boiler and of its furnace is adopted in a great many dye-houses. When their dimensions are good, there is much economy of fuel, and convenience of manipulation. Those of the figure have been copied from well constructed furnaces. If pit coal be burned, the height of the fire-place should be diminished a little, and if turf, a little increased. Instead of sinking the furnace into the ground, its bottom may, however, be put nearly on a level with that of the tub, and the lee made to fall back from the tub into the boiler by a kneed pipe, which reaching to near the bottom of the tub, and opening above the boiler, does the office of a syphon, and reconveys to it the lees which had gone through the whole thickness of the goods. We come now to

IV. THE PRINCIPAL IMPROVEMENTS IN THE MODERN MODE OF BLEACHING.

These appear 1. In the use of the wash-stocks or dash wheels, already described, in which the goods, after being steeped, are cleansed from the weavers' and any other loose stuff attached to them. They are now deposited in layers one above another in a large wooden vat of circular form, sometimes called a kieve, which is then filled with old alkaline lee, at a blood-heat, under which they are carefully kept, moderately compressed. In a few hours an intestine motion is observable, and an increase of temperature takes place; the liquid swells; bubbles of air rise to the surface; and a thick scum is thrown up. The fermentation, which we have noticed in describing the old plan, is now found to proceed for twelve or eighteen hours, according to the weather. When it ceases the goods are withdrawn from the vat, and again carried to the stocks or dash-wheel, in order to be cleared. This must be particularly attended to; if left too long in the steep, after the acetous fermentation ceases, the putrid fermentation begins, and the extraneous colored and other matters, in place of being discharged from the goods, are fixed in them; and the fibre of the cloth is corroded.

2. *In the use of the bucking tub.*—The boiler having been charged with alkaline lee, the goods are placed over it in the vat or kieve already mentioned, and here represented with a central iron pipe, and grate bottom. Whenever the water or alkaline lee boils briskly, its vapor, confined by the goods in the crib, presses on the surface of the liquid, and forces this to issue in a sudden stream from the top of the pipe, whence it is spread over the surface of the goods, and gradually percolates down through them. The liquid in its descent becomes slightly cooled; but after a little while, accumulating and becoming hot again in the boiler, a new eruption of boiling liquid takes place. When linen cloths are nearly white, they are sometimes gently boiled with pearl-ashes, or pearl-ashes and soap, in common cast-iron boilers, with a stop-cock at the bottom; or the boiler already described may be used.

3. *In the immersion of the goods in the oxymuriate of potash or lime.*—We have already discussed the formation and operation of these lees. It need only be added here that their specific gravity is generally about 1005. The period of immersion is ten or twelve hours. Souring is accomplished by the use of sulphuric acid, as already hinted, which is made about as strong as good vinegar. But it must be well washed out, or the goods will infallibly rot when dry. The following has been given as a summary of the entire process. 'A parcel of goods consists of 360 pieces of those linens which are called Britannias. Each piece is thirty-five yards long, and they weigh on an average ten pounds each: the weight of the parcel is, in consequence, about 3600 pounds, avoirdupois weight. The linens are first washed, and then steeped in alkaline lee, as formerly described under these processes; they then undergo the following operations:

- 1st. Bucked with 60 lb pearl-ashes, washed, exposed on the field.
- 2d. Ditto . . . 80 . . . do . . . do . . . do . . . do.
- 3d. Ditto . . . 90 . . . potashes . . . do . . . do . . . do.
- 4th. Ditto . . . 80 . . . do . . . do . . . do . . . do.
- 5th. Ditto . . . 80 . . . do . . . do . . . do . . . do.
- 6th. Ditto . . . 50 . . . do . . . do . . . do . . . do.
- 7th. Ditto . . . 70 . . . do . . . do . . . do . . . do.
- 8th. Ditto . . . 70 . . . do . . . do . . . do . . . do.
- 9th. Soured one night in dilute sulphuric acid, washed.
- 10th. Bucked with 50 lb pearl ashes, washed, exposed on the field.
- 11th. Immersed in the oxymuriate of potash twelve hours.
- 12th. Boiled with 30 lb pearl-ashes, washed, exposed on the field.
- 13th. Ditto . . . 30 . . . do . . . do . . . do . . . do.
- 14th. Soured, washed.

The linens are then taken to the rubbing board, and well rubbed with a strong lather of black soap, after which they are well washed through pure spring water. At this period they are carefully examined, and those which are fully bleached are laid aside to be blued and made up for the market; while those which are not fully white, are returned to be boiled and steeped in the oxymuriate of potash, and soured, until they are fully white.' It may be here remarked that magnesia has been suggested as a substitute for lime in the above process; but its high price will long forbid its general use.

The bleaching of calicoes is conducted upon the same general plan, as that of linen: only the object here is not so much perfect whiteness, as that the goods be well-rooted, as it is called, or completely freed of all coloring and vegetable oils. The process is therefore easier than that of linen bleaching. Fast-colored cottons are bleached in the following way:—After the starch or dressing is well removed by cold water, they are gently boiled with soap, washed, and immersed in a moderately strong solution of oxymuriate of potash or lime. This process is repeated till the white parts of the cloth are sufficiently pure. They are then soured in sulphuric acid. If these operations be well conducted, the colors, instead of being impaired, will be greatly improved, having acquired a delicacy of tint which no other process can impart.

In the bleaching of muslins of the coarser kind, such as jaconet, after they have been

steeped and washed, they are boiled in a weak solution of pot and pearl-ashes; then being again washed, they are twice boiled in soap alone, and then soured in very dilute sulphuric acid: when washed from the sour, they are again boiled in soap, washed, and immersed in the oxymuriate of potash. The boiling in soap, and steeping in the oxymuriate, is now repeated, until the muslin is a pure white. They are then soured and washed in pure spring water. In bleaching the finer fabrics of muslin, such as the mull mull and book muslins, nearly the same process is followed as the above for bleaching of jaconet; only that, on account of the fineness of the fabric, no pearl-ashes are used in boiling, but soap alone. The following is the practice followed by a very skilful bleacher of muslins near Glasgow:—In fermenting muslin goods, we surround them with our spent lees from the temperature of 100° to 150° Fah., according to the weather, and allow them to ferment for thirty-six hours. In boiling 112 pounds. = 112 pieces of yard-wide muslin, we use six or seven pounds of ashes and two pounds of soft soap, with 360 gallons of water, and allow them to boil for six hours; then wash them, and boil them again, with five pounds of ashes, and two pounds of soft soap, and allow them to boil three hours; then wash them with water, and immerse them into the solution of oxymuriate of lime, at five on the test tube, and allow them to remain from six to twelve hours; next wash them, and immerse them into diluted sulphuric acid at the

specific gravity of $8\frac{1}{2}$ on Twaddle's hydrometer = 1.0175, and allow them to remain an hour. They are now well washed, and boiled with $2\frac{1}{2}$ pounds of ashes, and two pounds of soap, for half an hour; afterwards washed and immersed into the oxymuriate of lime as before, at the strength of three on the test tube, which is stronger than the former, and allowed to remain for six hours. They are again washed and immersed into diluted sulphuric acid at the specific gravity of three on Twaddle's hydrometer = 1.015. If the goods be strong, they will require another boil, steep, and sour. At any rate, the sulphuric acid is well washed out before they receive the finishing operation with starch.

‘With regard to the lime, which some use instead of alkali, immediately after fermenting, the same weight of it is employed as of ashes. The goods are allowed to boil in it for fifteen minutes, but not longer, otherwise the lime will injure the fabric.’

For BLEACHING OF PAPER. See PAPER-MAKING.

For BLEACHING OLD PAPER: Boil your printed paper, for an instant, in a solution of caustic soda: that from kelp may be used. Steep it in soap-suds, and then wash it; after which it may be reduced to pulp. The soap may be omitted without much inconvenience. For old written paper to be worked up again: steep it in water acidulated with sulphuric acid, and then wash it well before it is taken to the mill. If the water be heated it will be more effectual. To bleach printed paper, without destroying its texture: Steep the leaves in a caustic solution of soda, either hot or cold, and then in a solution of soap. Arrange them alternately between cloths, as paper-makers do thin sheets of paper when delivered from the form, and subject them to the press. If one operation does not render them sufficiently white, it may be repeated as often as necessary. To bleach old written paper, without destroying its texture: Steep the paper in water acidulated with sulphuric acid, either hot or cold, and then in a solution of oxygenated muriatic acid; after which immerse it in water, that none of the acid may remain behind. This paper when pressed and dried, will be fit for use as before. Chaptal says ‘simple immersion in the oxygenated muriatic acid, and a longer or shorter continuance in it, according to the strength of the liquor, are sufficient to bleach a print; but when a book is the object other precautions are necessary. As it is requisite that the acid should moisten all the leaves, care must be taken to open the book well up, and to make its boards rest on the edge of the vessel, so that the paper alone dips into the liquor. Such leaves as are sticking together, must be adroitly separated, that they may be all equally impregnated. The liquor assumes a yellowish tint, the paper becomes white, and after two or three hours the book is withdrawn, in order to be plunged into pure water, which is to be renewed from time to time, to carry off any remaining oxygenated muriatic acid, along with its disagreeable smell.

‘This process has succeeded with me pretty well. It was the first which I employed. But too frequently the color of the leaves was varie-

gated: sometimes several pages have not been at all bleached; and I was forced to adopt a sure process. We begin by unstitching the books, and reducing them to leaves. These leaves are set in squares contrived in a shallow leaden tub, with very thin plates, so that the leaves, laid flat, are separated from one another by hardly perceptible intervals. The acid is then poured gently in, making it fall on the sides of the tub; and, to prevent the leaves from being deranged after the operation is finished, the acid is drawn off by a stop-cock placed in the bottom of the tub. This liquid is replaced by fresh water, which washes the paper, and deprives it of the odor of the oxygenated acid. It is now hung up to dry, smoothed, and bound. I have restored by this means several precious works, which were of no value from their bad condition. The leaves may be set also upright in the tub, a position which offers some advantages, as they are less readily torn. For this purpose I constructed a wooden frame, which I fixed down at the height which I thought suitable, conformably to the height of the leaves that I wished to bleach. This frame supported very thin slips of wood, leaving between them intervals of half a line. I placed two leaves in each of these intervals, and fastened them with two small wedges of wood, which I pushed between the slips so as to press the leaves against them. I give the more preference to this process, because, when the operation is done, I lift out the frame with the leaves, and plunge the whole into fresh water. By this operation, not only books are restored, but the paper receives a degree of whiteness which it never had. This acid has also the advantage of effacing spots of ink which frequently depreciate books and prints. This liquor does not attack the stains of grease or oil; but it has been long known, that a weak solution of potash (caustic alkali) is a sure means of removing these marks.

‘When I have had to repair engravings in such bad condition that they exhibited merely fragments pasted down on paper, I was afraid of spoiling these fragments in the liquor, from the loosening of the paste. In this case, I took the precaution of enclosing the print in a large cylindrical jar, which I inverted over a glass, into which I put the proper mixture for disengaging oxygenated muriatic gas. This aeriform substance filled the interior of the jar, and acted on the print, consuming the filth, destroying the spots of ink, while the fragments remained glued, and thus preserved their relative position.’

BLEACHING POWDER, or SALT. CHLORIDE OF LIME, which see. It is also called oxymuriate of lime.

BLEAK, } The same word as bleach,
BLEAK'NESS, } differing only in the applica-
BLEAK'Y, } tions. Bleach conveys the
BLEAK'LY. } simple idea of whitening in the
air, but bleak supersedes the notion of cold, as
the herbage is bleached or bleaked by piercing
winds; figuratively used to express whatever
is chill, dreary, cheerless, and desolate.

Intreat the north

To make his *bleak* winds kiss my parched lips,
And comfort me with cold.

Shakspeare.

The goddess that in rural shrine
Dweldest here with Pan, or Sylvan, by blest song
Forbidding every *bleak* unkindly fog
To touch the prosperous growth of this tall wood.

Milton.

On shrubs they browse, and, on the *bleaky* top
Of rugged hills, the thorny bramble crop. Dryden.
The parching dog-star, and the *bleak* north-east.

Prior.

Her desolation presents us with nothing but *bleak*
and barren prospects. Addison.

Say, will ye bless the *bleak* Atlantic shore,
Or bid the furious Gaul be rude no more? Pope.

The inhabitants of Nova Zembla go naked, without
complaining of the *bleakness* of the air; as the armies
of the northern nations keep the field all winter.

Addison.

On some *bleak* shore or solitary den
Far from the path and cheerful haunts of men. Rowe.

BLEAK', *n. s.* alburnus, from his white or
bleak color. A small river fish.

The *bleak*, or fresh-water sprat, is ever in motion,
and therefore called by some the river-swallow. His
back is of a pleasant, sad sea-water green, his belly
white and shining like the mountain snow. *Bleaks*
are excellent meat, and in best season in August.

Walton.

BLEAR, *v. & adj.* } Germ. *blaen*, from
BLEAR'NESS, } which is derived the
BLEARED'NESS, } Dutch, *bluer*, a blister,
BLEAR'EYED. } pustule or tumor. It is
applied to diseases of the eye, which, by rheum
or water, produce dimness or obscurity of
vision. Metaphorically, to dim; impede; or
obstruct the sight, as if disordered with blains,
and watery inflammation.

Full wel coude I him quite
With *blearing* of a proud milleres eye,
If that me list to speke of ribaudrie!
But ik am old; me list not play for age;
Gras time is don, my fodder is now forage.

Chaucer. Canterbury Tales.

All tongues speak of him, and the *bleared* sights
Are spectacted to see him. Shakespeare.

It is a tradition that *blear* eyes affect sound eyes.
Bacon.

Thus I hurl
My dazzling spells into the spongy air,
Of power to cheat the eye with *blear* illusion,
And give it false presentments. Milton.

It is no more in the power of calumny to blast the
dignity of an honest man, than of the *blear-eyed* owl
to cast scandal on the sun. L'Estrange.

The defuxion falling upon the edge of the eyelids,
makes a *bleuredness*. Wiseman.

When I was young, I, like a lazy fool,
Would *blear* my eyes with oil to stay from school;
Averse to pains. Dryden.

His *blear* eyes ran in gutters to his chin;
His bearl was stubble and his cheeks were thin. Id.

Is it not a pity now, that tickling rheums
Should ever tease the lungs and *blear* the sight
Of oracles like these? Cowper.

BLEAT', *v. & n.* } Ang.-Sax. *blætan*; Lat.
BLEAT', } *balare*; to cry as a sheep
or lamb.

We were as twinned lambs, that did frisk in the
sun,
And *bleat* the one at the other. Shakespeare.

You may as well use question with the wolf,
Why he hath made the ewe *bleat* for the lamb.

Id. Merchant of Venice.

Jehovah, who, in one night, when he pass'd,
From Egypt marching, equalled with one stroke
Both her first-horn and all her *bleating* gods. Milton.

While on sweet grass her *bleating* charge doth lie,
Our happy lover feeds upon her eye. Roscommon.

What bull dares bellow, or what sheep dares *bleat*
Within the lion's den? Dryden.

Set in my ship, my ear reached where we rode,
The bellowing of oxen, and the *bleat*
Of fleecy sheep. Chapman.

Full swell the woods; their every musick wakes,
Mixed in wild concert with the war'ling brooks,
Increased the distant *bleatings* of the hills. Thomson.

With innocent dismay a *bleating* flock
Crowd back, affrighted at the rolling tides.

G. West.

BLECHINGLEY, or BLETCHINGLEY, a town
of Surrey, two miles from Godstone, and twenty-
one south of London, sends two members to par-
liament; and has done so ever since parliaments
existed. The bailiff who returns the members
is chosen annually at the lord of the manor's
court. The town stands on a hill, and has a
fine prospect as far as the Sussex South Downs.

BLECHNUM, in botany, a genus of plants,
class cryptogamia, order filices. Fructification
a continued longitudinal line, each side the rib
of the frond parallel with it; involucre continued
from the surface, opening towards the rib: spe-
cies eight; one or two natives of England.

BLECHUM, in botany, a genus of plants,
class didynamia, order angiospermia: CAL. in
five deep equal segments: COR. funnel-shaped:
CAPS. two-celled, valved, and a contrary par-
tition, at length separating in portions: SEEDS
several, with awl-shaped props.

B. brownei; dense-piked blechum, leaves
ovate, slightly toothed; spikes quadrangular;
bracteas ovate, downy. Native of the West
Indies; a perennial, two or three feet high;
flowers of no great beauty.

B. erectum, upright blechum; leaves oblong,
somewhat toothed, smooth; spikes ovate; brac-
teas nearly smooth. Found in the western parts
of Jamaica. Stem erect, rather shrubby; flowers
blue.

B. angustifolium, narrow-leaved blechum;
leaves linear-lanceolate; spikes oblong; bracteas
ovate, hairy. Native of the Carribee Islands.
Herbaceous, a foot high, with tumid joints;
leaves smooth on both sides; flowers small,
blue.

BLEED', } Ang.-Sax. *blædan*, from bla-
BLEED'ING. } sen. Dut. *blösen*, signifies to
grow red; *blæden* is to let out the red; that is,
the blood; to bleed then is to lose blood; to
run with blood; to die by violence; when any
liquid flows or drops from a body, either naturally
or in consequence of incision, that body is said
to bleed.

The cruel steele, which thrilled her dying hart,
Fell softly forth, as of its own accord;
And the wyde wound, which lately did dispart
Her *bleeding* brest, and riven bowels gored,
Was closed up as it had not been sored. Spenser.

I bled inwardly for my lord. Shakespeare.

Bleed, bleed, poor country!
Great tyranny, lay thou thy basis sure
For goodness dare not check thee. Id.

When Greeks joined Greeks, then was the tug of war,
The laboured battle sweat, and conquest *bled*.

Lee's Alexander.

The lamb thy riot dooms to *bleed* to-day;
Had he thy reason, would he skip and play? *Pope.*

For me the balm shall *bleed*, and amber flow,
The coral redden, and the ruby glow. *Id.*

'That from a patriot of distinguished note,
Have *bled* and purged me to a simple vote. *Id.*

Patriots have toiled, and in their country's cause
Bled nobly; and their deeds, as they deserve,
Receive proud recompense. We give in charge
Their names to the sweet lyre. *Cowper.*

The only heart—the only eye
Had *bled* or wept to see him die,
Had seen those scattered limbs composed,
And mourned above his turbaned stone—
That heart hath burst—that eye was closed—

Byron.

BLEEDING, a hæmorrhage or flux of blood from a wound, rupture of a vessel, or other accident. See HÆMORRHAGE.

BLEEDING AT THE NOSE, OR EPISTAXIS. See EPISTAXIS.

BLEEDING OF PLANTS is drawing out the sap of plants, otherwise called tapping. See TAPPING.

BLEKINGEN, a province of Sweden, having the title of county, situated in South Gothland. It is bounded by Smaland on the north, Schonen on the west, and the Baltic on the other sides. In length it is about 100, and the breadth twenty-five miles, including a surface of less than 1000 square miles, with about 67,000 inhabitants. Though great part of it is mountainous and woody, it is considered one of the most agreeable parts of Sweden. The inhabitants subsist chiefly by hunting, fishing, and breeding of cattle. Carlscrona is the capital.

BLEMISIL, *v. & n.* Junius says from BLEMISH'LESS, } *blame*; Fr. from *bleme*,
BLEMISH'MENT, } which signifies white;
BLEMISH'ING. } a blemish is that which stains or spots what would otherwise, and what ought to be perfectly white. Thus any natural deformity is a blemish; any speck or injury which mars beauty or destroys proportion. Metaphorically it is any thing that sullies, taints, or tarnishes a reputation, that was before sound, fair, and pure; thus it signifies turpitude; reproach, and disgrace.

If any natural *blemish* blot our face,
You do protest it gives our beauty grace.

Drayton.

Full many lords, and many knights her loved,
Yet she to none of them her liking lent,
Ne ever was with fond affection moved,
But ruled her thoughts with goodly government
For dread of blame, and honor's blemishment.

Spenser. Faerie Queene.

Likelier that my outward face might have been
disguised, than that the face of so excellent a mind
could have been thus *blemished*. *Sidney.*

That you have been earnest, should be no *blemish*
or discredit at all unto you. *Hooker.*

Open it so from the eyelid, that you divide not
that; for, in so doing, you will leave a remediless
blemish. *Wiseman.*

First shall virtue be vice, and beauty be counted a
blemish,
Ere that I leave with song of praise her praise to so-
lemnize. *Sidney.*

Live thou, and to thy mother dead attest,
That clear she died from *blemish* criminal.

Faerie Queene.

Is conformity with Rome a *blemish* unto the church
of England, and unto churches abroad an ornament?
Hooker.

Not a hair perished:

On their sustaining garments not a *blemish*,
But fresher than before. *Shakspeare.*

Evadne's husband! 'tis a fault

To love, a *blemish* to my thought. *Waller.*

— This three years day these eyes, tho' clear
To outward view of *blemish* or of spot,
Bereft of light, their seeing have forgot.

Milton. Sonnets.

Not that my verse would *blemish* all the fair;
But yet if some be bad, 'tis wisdom to beware.

Dryden.

That your duty may no *blemish* take,
I will myself your father's captive make. *Dryden.*
Such a mirth as this is capable of making a beauty,
as well as a *blemish*, the subject of derision. *Addison.*
Those, who, by concerted defamations, endeavour
to *blemish* his character, incur the complicated guilt of
slander and perjury. *Id.*

To all apparent beauties blind,
Each *blemish* strikes an envious mind. *Gay.*

BLEMMYES, or BLEMYES, a fabulous people of Ethiopia, said to have no heads; their eyes, mouth, &c. being situated in their breasts. See ACCEPHALI. Bochart derives the word *blemmyes* from בלי which implies negation, and מית brain; in which sense the *Blenny*es should have been people without brains.

Bryant, rejecting the pure Greek κεφαλος, forms three Egyptian wards, Ac-caph-el, which he interprets, the Rock consecrated to the Sun. This, which is the same with Cahen-caphel, (κνωκεφαλος) he affirms was a university in Upper Egypt, which furnished all the temples with priests.

A barbarous people of this name appeared in the third century, as the allies of the Egyptians against Dioclesian. 'The number of the *Blenny*es,' says Gibbon, 'scattered between the island of Meroe and the Red Sea, was very inconsiderable; their disposition was unwarlike; their weapons rude and inoffensive. Yet in the public disorders these barbarians, whom antiquity, shocked with the deformity of their figure, had almost excluded from the human species, presumed to rank themselves among the enemies of Rome. Such had been the unworthy allies of the Egyptians; and, while the attention of the state was engaged in more serious wars, their vexatious inroads might again harass the repose of the province. With a view of opposing to the *Blenny*es a suitable adversary, Dioclesian persuaded the Nobatæ, a people of Nubia, to remove from their ancient habitations in the deserts of Libya, and resigned to them an extensive but unprofitable territory above Syene and the cataracts of the Nile; with the stipulation, that they should ever respect and guard the frontier of the empire.' See *Gibbon's History*, chap. xiii. vol. ii. p. 144; *Strabo*, lib. xvii. p. l. 172; *Pomponius Mela*, lib. i. c. 4.

BLENC'H, *v. & n.* } See to BLANCH and to
BLENC'IER, } BLINK. To shrink from;
BLENC'ING. } to start back; to give
away; to hinder; to obstruct. Not much used.

I'll observe his looks ;

I'll tent him to the quick ; if he but *blench*,
I know my course. *Shakspeare.*

Patience herself, what goddess ere she be,
Doth lesser *blench* at sufferance than I do. *Id.*

Hold you ever to our special drift ;
Though sometimes you do *blench* from this to that,
As cause doth minister. *Id.*

The rebels besieged them, winning the even ground
on the top, by carrying up great trusses of hay before
them, to *blench* the defendants sight, and dead their
shot. *Carew.*

BLENCH, or **BLANCH**, a sort of tenure of land.
To hold land in *blench*, is by payment of a sugar-
loaf, a couple of capons, a beaver hat, or the
like, if demanded ; *nomine albæ firmæ*, i. e. in
name of *blench*.

BLEND, *v.* } *Ang.-Sax. blendan ; Swed.*
BLEND'ER, } *blanda*, to mix ; to mingle to-
BLENT, *part.* } gether ; to compound. For-
merly to pollute ; to spoil ; to corrupt : but in
this sense it is now wholly obsolete.

The moon should wander from her beaten way, the
times and seasons of the year *blend* themselves by
disordered and confused mixture. *Hooker.*

Which when he saw, he burnt with jealous fire ;
The eye of reason was with rage *yblend*. *Færie Queene.*

Regard of worldly muck doth foully *blend*,
And low abase the high heroick spirit. *Id.*

'Tis beauty truly *blent*, whose red and white
Nature's own sweet and cunning hand laid on. *Shakspeare.*

The mistion taught by the ancients is too slight or
gross ; for bodies mixed according to their hypothesis,
would not appear such to the acute eyes of a lynx,
who would discern the elements, if they were no other-
wise mingled, than but *blended* but not united. *Boyle.*

He had his calmer influence, and his mien
Did love and majesty together *blend*. *Dryden.*

The grave, where even the great find rest,
And *blended* lie the oppressor and the oppressed. *Pope.*

BLEND, among mineralists, a species of lead
marcasite ; by miners called mock ore, mock
lead, and wild lead. The German mineralists
call it *blende*, whence our denomination *blinde*.
It answers to what in *Agricola* is called *Galena*
inanis. It usually lies immediately over the
veins of lead ore, in the mines which produce
it, for it is not found in all. When the mi-
ners see this, they know the vein of ore is very
near.

BLEND-METAL IRON, a coarse sort of iron
from the Staffordshire mines, used for making
nails and heavy ware ; in some places also for
horse-shoes.

BLEND-WATER, or *Morehough*, a distemper
incident to black cattle, comes either from the
blood, from the yellows, or from the change
of ground. To cure it, take bole armoniac, and
as much charcoal dust as will fill an egg shell, a
good quantity of the inner bark of an oak, dried
and pounded together to a powder, and give it
to the beast in a quart of new milk and a pint of
earning.

BLenheim, a village of Germany, in the
circle of Suabia, memorable for the defeat of the
French and Bavarians in 1704, by the English
and their allies, under the duke of Marlborough
and prince Eugene. The French army amounted

to 60,000 veterans, commanded by Marshal Tal-
lard and the elector of Bavaria. The allied
army, commanded by Eugene and Marlborough,
amounted to about 52,000 men, troops who had
long been familiar with victory, and who had
seen the French, the Turks, and the Russians,
fly before them. Both armies, after many marches
and counter marches, approached each other.
The French were posted on a hill near *Hochstet* ;
their right covered by the Danube and *Blenheim* ;
their left by the village of *Lutzingen* ; and their
front by a rivulet, the banks of which were steep,
and the bottom marshy. Their position being
advantageous, they were willing to await the
enemy rather than offer battle. Marlborough,
however, resolved to engage them at all events,
in consequence of an intercepted letter from
Villeroy, intimating that he was preparing to
cut off all communication between the Rhine and
the allied army. The dispositions, therefore,
being made for the attack, the cannonading began
about nine in the morning, and continued to
about half-past twelve. The troops then ad-
vanced to the attack ; the right under the di-
rection of prince Eugene, the left headed by
Marlborough, and opposed to Marshal Tallard.
Marlborough, at the head of the English troops,
having passed the rivulet, attacked the cavalry
of Tallard with great bravery. Prince Eugene
had not yet attacked the forces of the elector ;
and it was near an hour before he could bring
up his troops to the engagement. Tallard had
posted a large body of forces in *Blenheim*, and
he now made an attempt to bring them to the
charge. They were attacked by a detachment of
Marlborough's troops so vigorously, that instead
of assisting the main body they could hardly
maintain their ground ; and the French cavalry
being thus taken in flank, was totally defeated.
The English army now penetrated the French
centre, while the forces in *Blenheim* were sepa-
rated by another detachment ; and Tallard was
made prisoner by the Hessian Troops, who were
in the allied army. Meanwhile, prince Eugene
having repulsed the enemy, the rout became
general, and the consternation of the French
soldiers was such that they threw themselves into
the Danube, without knowing whither they fled.
The allies being masters of the field of battle,
surrounded the village of *Blenheim*, and com-
pelled a body of 13,000 men, who had maintained
their ground, to lay down their arms. Thus
ended the battle of *Blenheim*, one of the most
complete victories that ever was obtained ;
12,000 French and Bavarians being slain in the
field or drowned in the Danube ; and 13,000
made prisoners of war ; besides 100 pieces of
cannon. All the French baggage, together with
their military chest, fell into the hands of the
allies. Next day, when the duke of Marlborough
visited his prisoner the marshal, the latter assured
him that he had overcome the best troops in the
world. 'I hope, Sir,' replied the duke, 'you
will except those troops by whom they were
conquered.' *Blenheim* lies three miles north-
east of *Hochstet*, and twenty-five north-west of
Angsburg. Long. 10° 25' E., lat. 48° 40' N.

BLenheim-House, a princely house erected
in honor of the duke of Marlborough at Wood-

stock, near Oxford, which with the manor of Woodstock was settled on the duke and his heirs, in consideration of the eminent services by him performed for the public; and for building of which house the sum of £500,000 was granted by parliament, &c. The tenure by which the manor of Woodstock is held, is the presenting at the castle of Windsor annually, on the day on which the battle of Blenheim was fought, a flag embroidered with fleurs-de-lis. In the park formerly stood a royal palace, where king Ethelred called a parliament, and where Alfred is said to have translated Boetius de Consolatione Philosophiæ. It was the principal residence of Henry II., who erected a house here for the abode of Rosamond Clifford, his favorite mistress. Here also he received homage from Rees, prince of Wales, knighted his son Geoffry, and gave away his cousin, the lady Ermengard, to William, king of Scotland. Edward II. was born here, as was Edward the Black Prince; and here Elizabeth was confined during part of the reign of Mary. The palace retained its regal splendor till the civil wars, when it was nearly destroyed. Near the bridge, to the north, there have been planted two sycamore trees on the spot occupied by its last remains. A stately column, 130 feet high, with a statue of the duke on the top, and the pedestal inscribed with tablets of his titles and achievements, is now the principal object in the park. This beautiful mansion extends from wing to wing, 348 feet, after the design of Vanbrugh. On a pediment, towards the garden, is a bust of Louis XIV., taken from the gates of Tournay. The entrance is through a handsome portal, on the top of which is a reservoir of water; this leads to a quadrangle, where are the offices, theatre, &c. The hall is supported by Corinthian pillars, the ceiling of which is beautifully painted, representing Victory crowning the victorious duke. The pictures in the bow-window room are by Schiavoni, Reynolds, Kneller, Tintoret, Rubens, Teniers, Giorgioni, &c., and the tapestry represents the various battles of the duke, one of which is that of Blenheim. The east dressing-room is furnished with crimson damask, and decorated with several capital paintings, as well as the duke's dressing room, and the grand cabinet. The saloon is grand and proportioned to the general magnificence; the lower part is lined with marble; on the sides are pictures of the inhabitants of different nations, in their proper costume, and on the ceiling is a representation of the duke stopped in the career of his victories by Peace, and Time reminding him of the rapidity of his own flight. The library is 183 feet in length, exclusive of the book-cases, and contains a very valuable collection. At one end of the room is a statue of queen Anne by Rysbrack, and at the other a marble bust of Alexander the Great, found at Herculaneum; besides several other fine busts and portraits. In the chapel, which occupies one of the wings, is a superb monument to the memory of the first duke and duchess, by Rysbrack. The gardens are spacious and well laid out: at one of the extremities is a fountain, designed from a model of that in the Piazza Navona at Rome. The four

river gods, represented as the guardian genii of the waters, also the horses and the lion, deserve particular attention, as exquisite pieces of sculpture. About the middle of the grand approach is a magnificent bridge of three arches, the water being formed into a lake, which covers a spacious valley, surrounded by an artificial declivity of a considerable depth.

BLENNIUS, the *BLENNY*, in ichthyology, a genus of fishes belonging to the order of jugulares. Essential characters: the head slants or declines to one side; there are six rays in the membrane of the gills; the body tapers towards the tail; the belly fins have only two blunt bones; and the tail fin is distinct. The most remarkable are, 1. *B. cornutus*, with a simple ray above the eyes, and a single black fin. 2. *B. cristatus*, with a longitudinal bristly crest betwixt the eyes. The above two are natives of the Indies. 3. *B. galeria*, with a transverse membranous crest upon the head, is found in the European seas. 4. *B. gunnellus* has ten black spots on the back fin. It is found in the Atlantic Ocean. 5. *B. orellaris*, with a furrow betwixt the eyes, and a large spot on the back fin. It is found in the European seas. 6. *B. phycis*, with a kind of crested nostrils, a cirrus or beard on the under lip, and a double fin on the back. It has seven rays in the gill membrane; the anus is surrounded with a black ring; and the tail is roundish. The two last are found in the Mediterranean Sea. 7. *B. viviparus* has two tentacula at the mouth. Schonevelde first discovered this species; Sir Robert Sibbald afterwards found it on the Scottish coast. They bring forth 200 or 300 young at a time. Their season of parturition is a little after the depth of winter. Before Midsummer they quit the bay and shores, and retire into the deep, where they are commonly taken.

BLENNORRHEA, from *βλεννα*, mucus, and *ῥεω*, to flow; a gleet; a discharge of mucus from the urethra, arising from weakness.

BLEPHARIES, in anatomy, the hair of the eyelids, or the part on which it grows.

BLEPHARON; *βλεφαρον*, Greek, the eyelid.

BLEPHAROXYSTUM, from *βλεφαρον* and *ξύω*, to scrape off; an instrument for pulling hairs out of the eye-lids.

BLERA, in old records, peat or turf.

BLESS', or	} the Ang.-Sax. <i>lysan</i> , to loosen or slacken. To dissolve; to set free; to soothe; to free from pain of body; anguish of mind; to pacify; to gratify; to confer happiness; to make happy; to prosper; to render successful; to wish happiness to another; to pronounce a benediction upon him; a devout expression of goodwill; to praise; to glorify; to celebrate. To be blessed, in the theological sense, is to be holy and happy; happy in the favor of God; happy in the felicities of heaven.
BLISS',	
BLESSED,	
BLESS'EDLY,	
BLESS'EDFUL,	
BLESS'EDNESS,	
BLESS'ER,	
BLESS'ING,	
BLESS'FULNESS.	

And this is the *blessing* wherewith Moses the man of God *blessed* the children of Israel, before his death.

Deuteronomy.

He blessed, and brake, and gave the loaves. *Matt.*
All generations shall call me blessed. *Luke.*

Blessed are the dead which die in the Lord. *Rev.*

He sayde, Friends! I am here and old,
And almost, God wot, on my pites brink;
Upon my soule somewhat most I think,
I have in my body folly dispended,
Blessed be God that it shall ben amended.

Chaucer. Canterbury Tales.

Unto us there is one only guide of all agents natural, and he both the creator and worker of all in all, alone to be blessed, adored, and honoured by all for ever.

Hooker.

Many times have I, leaning to yonder palm, admired the blessedness of it, that it could bear love without the sense of pain.

Id.

Earthlier happy is the rose distilled,
Than that, which, withering on the virgin thorn,
Grows, lives, and dies in single blessedness.

Shakspeare.

The quality of mercy is not strained;
It droppeth as the gentle rain of heaven
Upon the place beneath. It is twice blessed;
It blesseth him that gives, and him that takes.

Id.

The person that is called, kneeleth down before the chair, and the father layeth his hand upon his head, or her head, and giveth the blessing.

Bacon.

But blessed be that great power, that hath us blessed
With longer life than earth and heaven can have.

Davies.

————— How hast thou disturbed

Heaven's blessed peace, and into nature brought
Misery uncreated till the crime
Of thy rebellion.

Milton.

This kingdom enjoyed the greatest calm, and the fullest measure of felicity, that any people, in any age, for so long time together, have been blessed with.

Clarendon.

Happy this isle, with such a hero blest;
What virtue dwells not in his loyal breast?

Waller.

In vain with folding arms the youth assayed
To stop her flight, and strain the flying shade;
But she returned no more, to bless his longing eyes.

Dryden.

When thou receivest praise, take it indifferently,
and return it to God, the giver of the gift, or blessing of the action.

Taylor.

It is such an one, as, being begun in grace, passes into glory, blessedness, and immortality.

South.

O hospitable Jove! we thus invoke,

Bless to both nations this auspicious hour.

Id.

A just and wise magistrate is a blessing as extensive as the community to which he belongs; a blessing which includes all other blessings whatsoever, that relate to this life.

Atterbury.

Peace to thy gentle shade, and endless rest!

Blest in thy genius, in thy love too blest!

Pope.

Sun!—Didst thou fly thy Maker's pain, or start,

At that enormous load of guilt,

Which bowed His blessed head, o'erwhelmed his cross.

Young.

In His blest life

I see the path, and in His death the price;

And in His great ascent, the proof supreme

Of immortality.

Id.

————— My soul is caught;

Heaven's sovereign blessings, clustering from the cross,
Rush on her, in a throng, and close her round,
The prisoner of amaze.

Id.

That dread shall vanish with the favouring gale,
Which love to-night hath promised to my sail;
No danger daunts the pair his smile hath blest;
Their steps still roving, but their hearts at rest.

Byron. Bride of Abydos.

BLESS (Henry), painter, was born at Bovines near Dinant, 1480. He acquired his skill by the strength of his natural genius, assisted by a diligent study of Patenier's works; and rendered himself eminent, particularly by his landscapes. His best performances were bought by the emperor Rodolph, and are still preserved at Vienna. His style in historical subjects resembled that of the Flemish artists. But he crowded several subjects into one design. Notwithstanding this impropriety his pictures are in great request; they are styled the owl pictures, for he fixed an owl, as his peculiar mark, in each of them. He died in 1550.

BLESSINGTON, a market town of Ireland, in the county of Wicklow, on the Liffey. Before the union it sent two members to the Irish parliament. Distant five miles south-west of Naas, and twenty north-west of Wicklow.

BLETA ALBA, an epithet given by some to the milky urine voided in some disorders of the kidneys, ranked by Paracelsus among the causes of the phthisis.

BLETIA, in botany, a genus of plants of the class gynandria, order monandria. Its essential characters are: cal. and petals distinct: lip sessile, hooded: style unconnected: anth. a terminal deciduous lid. 1. B. Tankervillei. Lady Tankerville's bletia. Lip undivided, with a short spur; leaves radical, elliptic-lanceolate. 2. B. verecunda, tall bletia. Petals converging; lip without a spur; middle lobe broader than long; lateral ones contracted upwards. Stalk more or less branched. Native of the West Indies. 3. B. florida, purple bletia. Petals spreading; lip without a spur; middle lobe somewhat wedge-shaped; lateral ones dilated at the summit; stalk branched. Native of the warmest parts of the West Indies. It is twelve or eighteen inches in height. 4. B. hyacinthia, hyacinthine bletia. Petals lanceolate, spreading; lip without a spur; stem leafy. Native of China. 5. B. capitata, capitate bletia. Lip without a spur; callous internally near the base; stem leafy. Native of the West Indies.

BLETON, or BLETTON (————), a practitioner of the art of rhabdomancy, or the faculty of discovering subterraneous treasures, springs, &c. by means of a rod, who met with many partisans among men of science in Italy, France and Germany. Dr. Ritter, a member of the academy of Munich, advocated the virtues of the hydromantic baguette, which he endeavoured to explain by means of galvanism. After Bleton this faculty, real or supposed, has sometimes been called Bletonism. See BAGUETTE, and *Memoire Physique et Medicinal montrant des Rapports evidens entre les Phenomenes de la Baguette Divinatoire et ceux de Magnetisme et Electricité*, Par M. T.——— (Thouvenel), Paris, 1781, 12mo.

BLETTERIE (John Philip René de la), professor of eloquence at Paris, was born at Rennes in 1696, and died in 1772. His principal works are, 1. The Life of the Emperor Julian, 12mo. Paris, 1735, 1746, and translated into English in 1746. 2. The History of the Emperor Julian, 2 vols. 12mo. Paris. 1748; abridged by Mr.

Duncombe in *The Select Works of the Emperor Julian*, 2 vols. 8vo. 1789. 3. A Translation of some of the Works of Tacitus, 2 vols. 12mo. Paris, 1755. He also edited Masclef's Hebrew Grammar, &c.

BLEYME, in farriery, an inflammation in the foot of a horse, between the sole and the bone. Bleymes are of three sorts: the first, bred in spoiled wrinkled feet with narrow heels, are usually seated in the inward or weakest quarter; the second infects the gristle, and must be extirpated as in the cure of a quitter-bone; the third is occasioned by small stones and gravel between the shoes and the sole. For a cure, pare the foot, let out the inatter, if any, and dress the sore like the prick of a nail.

BLIESCASTEL, a lordship, castle and town of Prussia, in the grand duchy of the Lower Rhine, formerly belonging to the count of Leyen, under the sovereignty of the elector of Treves. The town stands on the river Blies, and has a population of 1300 inhabitants. In 1783 the French were driven out of their camp here by the Prussians, but regained possession of it next day. Five miles west of Deux-Ponts, and ten east of Sarrebruck.

BLIGHIA, in botany, so named in honor of admiral William Bligh. Class octandria, order monogynia. CAL. in five deep segments: PET. five: STYLE none: CAPS. superior, three cells and three valves: SEEDS solitary. B. sapida, akee-tree. Native of Africa, whence it was transported to the West Indies in 1778. The fleshy tunic, or support, of the seed is said to be a delicate article of cookery, resembling the white flesh of a chicken or frog.

BLIGHT, *v. & n.* } The etymology un-
BLIGHT'ED, } known; perhaps, says the
BLIGHT'ING. } Eng. Met. from the Ang-
Sax. blihtan, belihtan, to alight; to descend; to fall upon; to strike, as with mildew; to blast, to wither; to hinder from fertility.

When you come to the proof once, the first blight of frost shall most infallibly strip you of all your glory.
L'Estrange.

This vapour bears up along with it any noxious mineral steams; it then blasts vegetables, blights corn and fruit, and is sometimes injurious even to men.

Woodward.

I complained to the oldest and best gardeners, who often fell into the same misfortune, and esteemed it some blight of the spring.

Temple.

The Lady Blast, you must understand, has such a particular malignity in her whisper, that it blights like an easterly wind, and withers every reputation that it breathes upon.

Spectator.

My country neighbours do not find it impossible to think of a lame horse they have, or their blighted corn, till they have run over in their minds all beings.

Locke.

But lest harsh care the lover's peace destroy,
And roughly blight the tender buds of joy,
Let reason teach.

Lyttleton.

O smile, ye heavens serene; ye mildews wan,
Ye blighting whirlwinds, spare his balmy prime,
Nor lessen of his life the little span.

Beattie. Minstrel.

What exile from himself can flee?

To zones, though more and more remote,

Still, still pursues where'er I be,

The blight of life—the demon thought.

Byron. Childe Harold.

— Yes,

Thus pale, cold, dying, thus thou art most fit

To be enfolded to this desolate heart—

A blighted lily on its icy bed. *Maturin. Bertram*

BLIGHT, in husbandry, a disease incident to plants, which affects them variously, the whole plant sometimes perishing by it, and sometimes only the leaves and blossoms, which will be scorched and shrivelled up, the rest remaining green and flourishing. Some have supposed that the blights are usually produced by an easterly wind, bringing vast quantities of insects' eggs along with it, from some distant place; and that these, being lodged upon the surface of the leaves and flowers of fruit trees, cause them to shrivel up and perish. To cure this distemper they advise the burning of wet litter on the windward side of the plants, that the smoke may be carried to them by the wind, which they suppose will destroy the insects and thereby cure the distemper. Others direct the use of tobacco dust, or to wash the trees with water in which tobacco stalks have been infused for twelve hours; which they say will destroy those insects and recover the plants. Pepper dust scattered over the blossoms of fruit-trees, &c. has been recommended as very useful in this case; and there are some that advise the pulling off the leaves that are distempered. The true cause of blight seems to be continued dry easterly winds for several days together, without the intervention of showers, or any morning dew, by which the perspiration in the tender blossom is stopped; and, if it so happens that there is a long continuance of the same weather, it equally affects the tender leaves, whereby their color is changed, and they wither and decay. The best remedy for this distemper is to wash and sprinkle the tree, &c. from time to time with common water; and, if the young shoots seem to be much infected, let them be washed with a woollen cloth, so as to clear them, if possible, from this glutinous matter, that their respiration and perspiration may not be obstructed. This operation ought to be performed early in the day, that the moisture may be exhaled before the cold of the night comes on; nor should it be done when the sun shines very hot. Another cause of blight in spring is sharp hoary frosts, which are often succeeded by hot sunshine in the day-time. These are the most sudden and certain destroyers of the fruits that are known.

BLIN, *v.*

BLIND, *v. & n.*

BLINDING, *n. & adj.*

BLINDFOLD, *v. & adj.*

BLINDLY,

BLINDNESS,

BLINDSIDE.

Ang.-Sax. blind,

blindan, blindian;

Germ. blinden, or

blenden, from the

Ang.-Sax. bliinnan, to

stop. Junius, and

after him Tooke and

the Ency. Met. to obstruct the vision; to deprive of sight; applied also to the understanding; want of discernment; foresight. Ignorant, any thing obscure; hard to find, dark and unseen: whatever misleads is said to blind.

I will smite every house of the people with *blindness*.
Zechariah.

Of whose hand have I received any bribe, to *blind* mine eyes therewith? and I will restore it.

1 Samuel.

When they had *blindfolded* him, they struck him on the face.
Luke.

Right so, a man that long hath *blind* ybe,
He may not sodenly so well ysee,
First when his sight is newe come again,
As he that hath a day or two yscin.

Chaucer. Canterbury Tales.

Full dreadfully he shooke, that all did quake,
And clapt on hie his coloured winges twaine,
That all his meiny it affraide did make:
Tho' *blinding* him againe, his way he forth did take.

Spenser.

The *blinded* god, which hath ye *blindly* smit,
Another arrow hath your love's hart hit.
Id.

You nimble lightnings, dart your *blinding* flames
Into her scornful eyes!
Shakspeare.

To grievous and scandalous inconveniences they
make themselves subject, with whom any *blind* or
secret corner is judged a fit house of common prayer.
Hooker.

There be also *blind* fires under stone, which flame
not out; but oil being poured upon them, they flame
out.
Bacon.

This my long-suffering, and my day of grace,
They who neglect and scorn shall never taste,
But hard be hardened, *blind* be *blinded* more.

Milton.

Those other two, equalled with me in fate,
So were I equalled with them in renown!
Blind Thamyris, and *blind* Maonides;
And Tiresias, and Phineas, prophets old.
Id.

Where else

Shall I inform my unacquainted feet
In the *blind* mazes of this tangled wood?
Id.

The *blind* man that governs his steps by feeling, in
defect of eyes, receives advertisement of things
through a staff.
Digby.

For what are lights to those who *blinded* be?
Or, who so *blinde*, as they that will not see?

Geo. Withers.

Disguised in all the mask of night,

We left our champion on his slight;

At *blind*-man's buff to grope his way,

In equal fear of night and day.
Hudibras.

Hardly any thing in our conversation is pure and
genuine; civility casts a *blind* over the duty, under
some customary words.
L'Estrange.

Oh happiness of *blindness*! Now no beauty

Inflames my lust; no others good my envy,

Or misery my pity; no man's wealth

Draws my respect, nor poverty my scorn.

Denham's Sophy.

A *blind* guide is certainly a great mischief; but a
guide that *blinds* those whom he should lead, is un-
doubtedly a much greater.
South.

Whensoever we would proceed beyond these simple
ideas, we fall presently into darkness and difficulties,
and can discover nothing farther but our own *blind-*
ness and ignorance.
Locke.

How ready zeal for interest and party, is to charge
atheism on those, who will not, without examining,
submit, and *blindly* swallow their nonsense.
Id.

Who *blindfold* walks upon a river's brim,

When he should see, has he deserved to swim?

Dryden.

A postern door, yet unobserved and free,

Joined by the length of a *blind* gallery,

To the king's closet led.
Id.

All authors to their own defects are *blind*;
Hadst thou but, Janus like, a face behind,
To see the people, what splay mouths they make;
To mark their fingers pointed at thy back.
Id.

The women will look into the state of the nation
with their own eyes, and be no longer led *blindfold*
by a male legislature.
Addison.

How have we wandered a long dismal night,
Let through *blind* paths by each deluding light!

Roscommon.

He is too great a lover of himself; this is one of
his *blind*sides; the best of men, I fear, are not with-
out them.
Swift.

The state of the controversy between us he endea-
voured, with all his art, to *blind* and confound.

Stillington.

There is no darkness like the cloud of mind
On Grief's vain eye—the *blindest* of the *blind*!
Which may not—dare not see—but turns aside
To blackest shade, nor will endure a guide.

Byron's Corsair.

BLINDES, or BLINDS, in the art of war, a
sort of defence commonly made of osiers, or
branches interwoven, and laid across between two
rows of stakes, about the height of a man, and
four or five feet asunder, used particularly at the
heads of trenches, when they are extended in
front towards the glacis; serving to shelter the
workmen, and prevent their being overlooked by
the enemy.

BLINDING was a species of punishment ac-
cidentally inflicted on thieves, adulterers, perjurers,
and others; and from which the ancient Christians
were not exempt. Sometimes lime and vinegar,
or barely scalding vinegar, was poured into the
eyes, till their balls were consumed; sometimes
a rope was twisted round the head till the eyes
started out. In the middle age, they changed
total blindness for a great darkness, or diminu-
tion of sight, which they produced by holding a
red hot iron dish or basin before the eyes, till
their humors were dried, and their coats shrivel-
led up. The inhabitants of the city of Apollonia
executed it on their watch when found asleep.

BLINDING, VOLUNTARY. Democritus, accord-
ing to Plutarch, Cicero, and A. Gellius, put out
his own eyes, that he might be less disturbed in
his mental contemplations, when thus freed from
the distraction of the objects of sight.

BLINDMAN'S BUFF, a play in which some
one is to have his eyes covered, and hunt out the
rest of the company.

BLINDNESS is a deprivation so serious, and
presenting such irresistible claims on our atten-
tion and sympathy, that expedients for the relief
and comfort of that portion of our fellow crea-
tures thus afflicted, have interested the benevolent
of all ages and nations. For the diseases that
produce this malady we refer to the articles EYE,
GUTTA SERENA, and VISION. Our object in the
present paper is to consider what alleviations and
consolations may be offered to the blind; of
what attainments they are capable; and what are
their sensations and opinions on particular sub-
jects, as compared with those of the more favored
portion of mankind.

It has been enquired whether blind persons
suffer, on the whole, any real diminution of the
powers of perception. Their hearing, their touch,
and their smell, are in many instances far more

acute than those of any around them; and with regard to some mental operations, their advantages are obvious, and their powers of memory, reflection, and abstraction of mind, unquestionably superior to those of other individuals. It is also remarkable that they generally exhibit a more than ordinary share of cheerfulness. Traces of ancient opinions upon this appear in the tales, false or true, told of Democritus, who is represented as being proverbially the 'laughing philosopher;' and as having inflicted a voluntary blindness on himself that he might think the more intensely.

But most of these advantages we may be told are the acquisitions of habit urged by necessity—but still they are important alleviations of the lot of the blind; they make the fact highly probable, that in the sum of their enjoyments, as well as of their perceptions, they are more nearly equal to their fellow creatures than superficial minds imagine, and demonstrate the goodness of that Source of all bliss, who is alike to all—invisible. It is almost demonstrable that our great Milton had, notwithstanding his bitter complaints on this account, been less absorbed in

— thoughts that voluntary move
Harmonious numbers, as the wakeful bird
Sings dawning, and in shadiest covert hid,
Tunes her nocturnal note;

and more of the political partisan, had he been more fortunate in this respect. We need not here transcribe those complaints for the ten-thousandth time, nor more than allude to the parallel situation of perhaps the greatest poet of antiquity.

Τον περί Μῶνον ἐφίλησε, διδασθε ἄγαθόν τε, κακόν τε,
Ὄφθαλμῶν μὲν ἄμφοτε, διδασθε ἥξειαν αὐοίην.
Odys. 1. θ v. 63, 64.

Dear to the muse, who gave his days to flow
With mighty blessings mixed with mighty woe;
In clouds and darkness quenched his visual ray,
Yet gave him power to raise the lofty lay. *Pope.*

In poetry, therefore, however dependent it may seem on the impression of visible objects upon the mind, the blind may ever rank among their fellow sufferers two of the mightiest names. In the highest branches of the mathematics too they have excelled. St. Jerome mentions a Didymus of Alexandria, who 'though blind from his infancy, and therefore ignorant of letters, appeared so great a miracle to the world, as not only to learn logic, but geometry also to perfection—which seems,' adds this father, 'the most of any thing to require the help of sight.' Cicero also states that his preceptor in philosophy, Diogenes, 'professed geometry after he became blind, and described his diagrams accurately to his scholars.' Parallel modern instances of proficiency in these sciences are found in professor Saunderson and Mr. Grenville.

The former seems to have acquired most of his ideas by the sense of feeling, having been deprived of sight at the age of twelve months. This sense became with him most exquisite: for though he abandoned all attempts at distinguishing colors, in a set of Roman medals he could distinguish the genuine from the false, it is said, though they had been counterfeited in such a

manner, as to deceive a connoisseur, who judged of them only by the eye. His sense of feeling was so acute, that he could perceive the least variation in the state of the air; and in a garden where observations were made on the sun, he took notice of every cloud that interrupted the observation, almost as justly as those who could see. He could tell when any thing was held near his face, or when he passed by a tree at no great distance, provided the air was calm, and there was little or no wind, by the different pulses of air upon his face. He also possessed a sensibility of hearing to such a degree, that he could distinguish even the fifth part of a note; and by the quickness of this sense not only discriminated persons with whom he had once conversed so long as to fix in his memory the sound of their voice, but he could judge of the size of a room into which he was introduced, and of his distance from the wall; and if he had ever walked over a pavement in courts, piazzas, &c. which reflected a sound, and was afterwards conducted thither again, he could exactly tell in what part of the walk he was placed, merely by the different notes that reached his ear. Dr. Saunderson, it is well known, was Lucasian professor of mathematics at Cambridge, and invented a palpable arithmetic, minutely described in Diderot's *Letters on the Blind*. It consisted of a square board of a convenient size, divided by parallel lines into a considerable number of smaller squares. Each of these smaller squares, or separate departments, was pierced with nine holes, standing in three parallel rows; and by fixing a pin in one or other of these nine holes, the nine digits were denoted, according to the position of the pin. In order to facilitate his calculation, Saunderson made use of two sizes of pins, a larger and a smaller. The pins with large heads were always placed in the centre holes of the squares; and when they stood alone, without any small pins, they denoted the cypher. The number 1 was denoted by a pin with a small head, placed in the centre of a square; the number 2, by a large pin in the centre, and a small one at the side, in the hole which was first in order; the number 3, by a large pin in the centre, and a small one in the second hole at the side; and so on in order to the number 9. Thus any sum could be expressed in a number of squares, corresponding to the number of its figures. Dr. S. was accustomed to express also by this means his geometrical demonstrations, the pins serving to make angles either alone or with silk threads connecting them.

Mr. Grenville, who had lost his eye-sight, also contrived an arithmetical machine, consisting of a square board full of holes, and ten sets of pegs of different forms, corresponding to the nine digits and cypher. By far the most simple and commodious of these machines, however, seems to be that of Dr. Henry Moyes; of which he has himself inserted an account in the *Encyc. Brit.* third edit. He informs us, that when he began to study the principles of arithmetic, he soon found that a person deprived of sight could scarcely proceed in that useful science, without the aid of palpable symbols representing the ten numerical characters; and being then unac-

quainted with Saunderson's method, he embraced the obvious, though, as he afterwards found, imperfect expedient, of cutting into the form of the numerical characters, thin pieces of wood or metal; which being arranged on the surface of a board, by means of a lamina of wax, readily represented any given number. It soon, however, occurred to him, that his notation, consisting of ten species of symbols or characters, was much more complicated than was absolutely necessary; and that any given number might be distinctly expressed by three species of pegs alone, viz. two with heads of the form of a right-angled triangle, and distinguished from each other by having a notch cut in the oblique side or hypotenuse of one of them, their other two sides being, one of them a continuation of the peg, and the other at right angles to it; and the third peg having a head of the form of a square. These pegs were to be stuck into a board of about a foot square, and divided into 376 little squares, by lines which were cut a little into the wood, so as to form a superficial groove. At each angle or intersection of the grooves, a hole was made for the insertion of the pegs. Sixty or seventy of each kind of pegs were necessary, which were placed in a case consisting of three boxes or cells, one for each set.

'Things being thus prepared,' says Dr. M. 'let a peg of the first set (with a plain triangular head) be fixed into the board; and it will acquire four different values, according to its position respecting the calculator. When its sloping side is turned towards the left, it denotes one, or the first digit; when turned upwards, or from the calculator, it denotes two, or the second digit; when turned to the right, it represents three; and when turned downwards, or towards the calculator, it denotes four, or the fourth digit. Five is denoted by a peg of the second set, with a notched triangular head, having its sloping side, or hypotenuse, turned to the left; six, by the same turned upwards; seven, by the same turned to the right; and eight, by the same turned directly down, or towards the body of the calculator. Nine is expressed by a peg of the third set, with a square head, when its edges are divided to right and left; and the same peg expresses the cypher, when its edges are directed up and down.—When it is necessary to express a vulgar fraction, I place the numerator in the groove immediately above, and the denominator in that immediately below the groove in which the integers stand; and, in decimal arithmetic, an empty hole in the integer groove represents the comma or decimal point. By similar breaks, I also denote pounds, shillings, pence, &c.; and by the same expedient, I separate, in division, the divisor and quotient from the dividend. Co-efficients and indices, in algebra and fluxions, are supplied upon similar principles.'

This gentleman lost his sight by the small-pox in his early infancy. He never recollected to have seen: 'but the first traces of memory I have,' says he, 'are in some confused ideas of the solar system.' Possessed of native genius, and ardent in his application, he made rapid advances in various departments of erudition; and not only acquired the fundamental principles of mechanics,

music, and the languages, but likewise entered deeply into the investigation of the profounder sciences, and displayed an acute and general knowledge of geometry, optics, algebra, astronomy, chemistry, and in short of most of the branches of the Newtonian philosophy. Mechanical exercises were the favorite employments of his infant years. At a very early age he made himself acquainted with the use of edged tools so perfectly, that, notwithstanding his entire blindness, he was able to make little wind-mills; and he even constructed a loom with his own hands. 'By a most agreeable intimacy and frequent intercourse which I enjoyed with this accomplished blind gentleman, whilst he resided at Manchester,' says his biographer, Dr. Bew, 'I had an opportunity of repeatedly observing the peculiar manner in which he arranged his ideas and acquired his information. Whenever he was introduced into company, I remarked that he continued some time silent. The sound directed him to judge of the dimensions of the room, and the different voices of the number of persons that were present. His distinctions in these respects were very accurate; and his memory so retentive that he seldom was mistaken. I have known him instantly recognise a person, on first hearing him speak, though more than two years had elapsed since the time of their last meeting. He determined pretty nearly the stature of those he was speaking with by the direction of their voices; and he made tolerable conjectures respecting their tempers and dispositions, by the manner in which they conducted their conversation. It must be observed that this gentleman's eyes were not totally insensible to intense light. The rays refracted through a prism, when sufficiently vivid, produced certain distinguishable effects on them. The red gave him a disagreeable sensation, which he compared to the touch of a saw. As the colors declined in violence the harshness lessened, until the green afforded a sensation that was highly pleasing to him, and which he described as conveying an idea similar to what he felt in running his hand over smooth polished surfaces. Polished surfaces, meandering streams, and gentle declivities, were the figures by which he expressed his ideas of beauty: rugged rocks, irregular points, and boisterous elements, furnished him with expressions for terror and disgust. He excelled in the charms of conversation; was happy in his allusions to visual objects; and discoursed on the nature, composition, and beauty of colors, with pertinence and precision. Dr. Moyes was a striking instance of the power the human soul possesses of finding resources of satisfaction even under the most rigorous calamities. Though involved 'in ever during darkness,' and excluded from the charming views of silent or animated nature; though dependent on an undertaking for the means of his subsistence, the success of which was very precarious; in short, though destitute of other support than his genius, and under the mercenary protection of a person whose integrity he suspected, still Dr. Moyes was generally cheerful, and apparently happy.'

The attempts which have been made to supply the blind with tangible musical characters, or signs, have not been attended with the success

which their delight in that science might have induced us to expect. In Tansure's Musical Grammar it is recommended that the blind should be provided with a smooth board, with ledges of deal glued on it at proper distances, to represent the five lines of the musical staff; with such additional lines as occasion may require. In these ledges, as well as in the intervals between them, a number of holes are to be drilled for the reception of a variety of pegs, intended to indicate the various kinds of notes in music; such as semibreves, minims, crotchets; together with the rests, flats, sharps, bars, &c. In another contrivance for the same purpose, in some asylums of the blind, a stuffed cushion is substituted for the board of Tansure, upon which strings are sewed to represent the musical staff; and the pegs intended to denote the various musical characters are fixed upon sharp pointed wires, by which means they may be stuck into any required part of the cushion.

In 1786 an *Essay on the Education of the Blind* was printed at Paris, under the patronage of the Academy of Sciences. It is the production of M. Haiiy, and does him great honor. Here we find a detail of a great variety of expedients by which the blind may be successfully instructed in the mechanic arts, as well as in music, arithmetic, geography, &c., and may even be taught to read, write, and print. In order to instruct the blind in music, at the institution of which M. Haiiy communicates the details in this work, musical characters of every necessary form were cast in metal, and so many in number as to represent upon paper, by elevations on its surface, all the possible varieties that occur. In teaching geography, which was the department of M. Weissenbourg and Mad. Paradis, the circumference of countries was marked out by a tenacious and viscid matter, and the different parts of the maps were covered with a kind of sand, mixed with glass in various modes; the order of the towns being distinguished by grains of glass of a greater or less size; or, according to the plan of M. Haiiy, the limits of the maps, for the use of the blind, were marked by a small rounded iron wire; and by some difference, either in the form or size of every part of a map, the pupils were assisted in distinguishing one part from another.

The manner in which the blind are taught to write and print is as follows: The pupil, by repeated experiments, having familiarised himself to the forms of the letters as drawn in relief, both in their direct and inverted position, gradually learns to impress them upon strong paper, a little moistened, with the point of a blunt iron pen or stylus, which marks without piercing the paper. By this means the letters become perceptible to the touch, on the one side sunk, and on the other in relief; and thus the blind may be enabled to form and decipher, not only the characters required in common language, but also mathematical diagrams, geographical plans, and all the characters employed in arithmetic, music, &c. In printing, the blind compositor has a box for every letter, on the outside of which is marked, in relief, the peculiar character belonging to each. By this means he is

enabled readily to choose and arrange his types, and when they are set, he makes use of a strong paper, slightly moistened, like that employed in writing, in order to render it more easily susceptible of impressions. Having laid this upon his types, by the operation of the press, or the strokes of a small hamnier, he raises an impression upon the paper, which, when dry, is sufficiently obvious to the touch to enable the blind to read by their fingers, and is so durable as to be by no means easily effaced. The types therefore are set, not in the reverse, but in the direct order, so that the characters may appear in relief, in the same order, on the opposite side of the paper. Dr. Blacklock mentions that he was in possession of a copy of M. Haiiy's *Essay*, which was printed in the manner now described, and also bound by the blind pupils of the Parisian institution, with great neatness. An English translation of the *Essay* is annexed to the edition of that gentleman's poems, printed at Edinburgh in 4to., in 1793.

Dr. Blacklock was himself amongst the most interesting of modern blind men. We have given (see BLACKLOCK) a sketch of his life already. Deploring the condition of the blind, he furnishes some original expressions, and one of the most powerful passages on this subject in the English language. To the blind, says he, the visible universe is annihilated; he is perfectly conscious of no space but that on which he stands, or to which his extremities can reach. Sound, indeed, gives him some ideas of distant objects; but those ideas are extremely obscure and indistinct. They are obscure, because they consist alone of the objects whose oscillations vibrate in his ear; and do not necessarily suppose any other bodies with which the intermediate space may be occupied, except that which gives the sound alone: they are indistinct, because sounds themselves are frequently ambiguous, and do not uniformly and exclusively indicate their real causes. And though by them the idea of distance in general, or even of some particular distances, may be obtained, yet they never fill the mind with those vast and exalting ideas of extension, which are inspired by ocular perception. For though a clap of thunder, or an explosion of ordnance, may be distinctly heard after they have traversed an immense region of space; yet, when the distance is uncommonly great, it ceases to be indicated by sound; and, therefore, the ideas acquired by auricular experiment, of extension and interval, are extremely confused and inadequate. The living and comprehensive eye darts its instantaneous view over expansive valleys, lofty mountains, protracted rivers, illimitable oceans. It measures, in an indivisible point of time, the mighty space from earth to heaven; or from one star to another. By the assistance of telescopes, its horizon is almost indefinitely extended, its objects prodigiously multiplied, and the sphere of its observation nobly enlarged. By these means, the imagination, inured to vast impressions of distance, can not only recal them in their greatest extent, with as much rapidity as they were at first imbibed, but can multiply them, and add one to another, till all particular boundaries and distances be lost in immensity.

‘Thus nature, by profusely irradiating the face of things, and clothing objects in a robe of diversified splendor, not only invites the understanding to expatiate on a theatre so extensive, so diversified, and so attractive; but entertains and inflames the imagination with every possible exhibition of the sublime or beautiful. The man of light and colors beholds the objects of his attention and curiosity from afar. Taught by experience, he measures their relative distances; distinguishes their qualities, determines their situations, positions, and attitudes; presages what these tokens may import; selects his favorites; traverses in security the space which divides them from him; stops at the point where they are placed; and either obtains them with ease, or immediately perceives the means by which the obstacles that intercept his passage to them may be surmounted. The blind not only may be, but really are, during a considerable period, apprehensive of danger, in every motion towards any place from whence their contracted power of perception can give them no intelligence. All the various modes of delicate proportion; all the beautiful varieties of light and colors, whether exhibited in the works of nature or art; are to them irretrievably lost. Dependent for every thing but mere subsistence, on the good offices of others; obnoxious to injury from every point, which they are neither capacitated to perceive, nor qualified to resist: they are, during the present state of being, rather to be considered as prisoners at large, than citizens of nature. The sedentary life, to which by privation of sight they are destined, relaxes their frame, and subjects them to all the disagreeable sensations which arise from dejection of spirits. Hence the most feeble exertions create lassitude and uneasiness. Hence the native tone of the nervous system, which alone is compatible with health and pleasure, destroyed by inactivity, exasperates and embitters every disagreeable impression. Natural evils, however, are always supportable; they not only arise from blind and undesigning causes, but are either mild in their attacks, or short in their duration; it is the miseries which are inflicted by conscious and reflecting agents alone, that can deserve the name of evils. These excoriate the soul with ineffable poignancy, as expressive of indifference or malignity in those by whom such bitter potions are cruelly administered. The negligence or wantonness, therefore, with which the blind are too frequently treated, is an enormity which God alone has justice to feel, or power to punish.’

Excellence in sculpture does not appear to us so remarkable in the blind. The artist of whom Aldrovandus speaks, became blind at twenty years of age, and yet ten years after made a perfect marble statue of Cosmo II. de Medicis: and another of clay, like Urban VIII. Bartholin also tells us of a blind sculptor in Denmark, who distinguished perfectly well, by mere touch, all kinds of wood, and even the colors of them; and De Piles (*Cours de Peint.* p. 329.) of another who thus took the likeness of the duke de Bracciano in a dark cellar, and made a marble statue of king Charles I. with great justness and elegance.

Musical attainments we seem also to expect as a matter of course with the blind; but to teach its theory to others would appear as difficult a task as any that they could undertake. Yet Sir John Hawkins assures us that the blind Sulinas’ Treatise on the Scientific Principles of Harmony, is equal to any that is extant. As to practical musicians we need only mention the well-known instance of Mr. Stanley, the organist of St. Andrew’s, Holborn, and at the Temple. He is said to have been one of the most pleasing and accurate of performers, as well as a very superior composer and instructor. So delicate was his ear that he could accompany with the thorough-bass any lesson which he heard for the first time, thus anticipating the harmony before the chords were sounded.

Authors of good credit mention a very surprising blind guide who used to conduct the merchants through the sands and deserts of Arabia. See *Leo Afric. Descr. Afr. lib. vi. p. 246.* and *Casab. Treat. of Enthus. c. ii. p. 45.* Dr. Bew, in the *Transact. of the Manchester Society*, mentions an instance not less marvellous in our own country. ‘John Metcalf, a native of the neighbourhood of Manchester, where he is well known, became blind at a very early age, so as to be entirely unconscious of light and its various effects. This man passed the younger part of his life as a waggoner, and occasionally as a guide in intricate roads during the night, or when the tracks were covered with snow. Strange as this may appear to those who can see, the employment he has since undertaken is still more extraordinary: it is one of the last to which we could suppose a blind man would ever turn his attention. His present occupation is that of a projector and surveyor of highways in difficult and mountainous parts. With the assistance only of a long staff, I have several times met this man traversing the roads, ascending precipices, exploring valleys, and investigating their several extents, forms, and situations, so as to answer his designs in the best manner. The plans which he designs, and the estimates he makes, are done in a manner peculiar to himself; and which he cannot well convey the meaning of to others. His abilities in this respect are nevertheless so great, that he finds constant employment. Most of the roads over the Peak in Derbyshire, have been altered by his directions; particularly those in the vicinity of Buxton: and he is at this time constructing a new one betwixt Wilmeslow and Congleton, with a view to open a communication to the great London road, without being obliged to pass over the mountains.’

Those of our readers who wish to pursue these extracts, will find an interesting account of a blind French lady, of remarkable acquirements, in the *Annual Register*, 1762. But a more remarkable case of providential compensation for this malady, united with that of deafness, occurred in the practice of Sir Hans Sloane. Of this lady it is said, ‘During the privation of her sight and hearing, her touch and her smell became so exquisite, that she could distinguish the different colors of silk and flowers, and was sensible when any stranger was in the room with her. After she became blind, and deaf, and dumb, it was

not easy to contrive any method by which a question could be asked her, and an answer received. This, however, was at last effected, by talking with the fingers, at which she was uncommonly ready. But those who conversed with her in this manner, were obliged to express themselves by touching her hand and fingers, instead of their own. A lady who was nearly related to her, having an apron on, that was embroidered with silk of different colors, asked her, in the manner which has been described, if she could tell what color it was? and after applying her fingers attentively to the figures of the embroidery, she replied, that it was red, and blue, and green; which was true. The same lady having a pink colored ribbon on her head, and being willing still further to satisfy her curiosity and her doubts, asked what color that was? Her cousin, after feeling some time, answered that it was pink color: this answer was yet more astonishing, because it showed not only a power of distinguishing different colors, but different kinds of the same color; the ribbon was not only discovered to be red, but the red was discovered to be of the pale kind called a pink. This unhappy lady, conscious of her own uncommon infirmities, was extremely unwilling to be seen by strangers, and therefore generally retired to her chamber, where none but those of the family were likely to come. The same relation, who had by the experiment of the apron and ribbon discovered the exquisite sensibility of her touch, was soon after convinced by an accident, that her power of smelling was acute and refined in the same highly astonishing degree. Being one day visiting the family, she went up to her cousin's chamber, and after making herself known, she entreated her to go down, and sit with her among the rest of the family, assuring her that there was no other person present; to this she at length consented, and went down to the parlour door; but the moment the door was opened, she turned back, and retired to her own chamber much displeased; alleging that there were strangers in the room, and that an attempt had been made to deceive her; it happened indeed that there were strangers in the room; but they had come in while the lady was above stairs, so that she did not know that they were there. When she had satisfied her cousin of this particular, she was pacified; and being afterwards asked how she knew there were strangers in the room, she answered, by the smell.' Her friends she generally distinguished by feeling their hands. A lady, with whom she was very well acquainted, coming in one very hot day, after having walked a mile, presented her hand as usual; she felt it longer than ordinary, and seemed to doubt whose it was; but after spanning the wrist, and measuring the fingers, she said, 'It is Mrs. M., but she is warmer to-day than ever I felt her before.' To amuse herself in the mournful and perpetual solitude and darkness to which her disorder had reduced her, she used to work much at her needle; and her work was uncommonly neat and exact. She used also sometimes to write; the characters were very pretty, the lines all even, and the letters placed at equal distances from each other; but the most astonishing particular

of all, with respect to her writing, is, that she could by some means discover when a letter had by mistake been omitted, and would place it over that part of the word where it should have been inserted, with a caret under it. It being doubted whether she had not some faint remains both of hearing and sight, many experiments were made to ascertain the fact; some of which, when she accidentally discovered them, gave her prodigious uneasiness, on account of her being suspected of insincerity. At length Sir Hans Sloane, after being permitted to satisfy himself by such experiments and observations as he thought proper, pronounced that she was absolutely blind and deaf.

Institutions for the reception and instruction of the blind have long been the honor of London, Liverpool, and Paris. Dr. Guillié has published some modern improvements on the conduct of the latter, with extracts from which, we shall close this article. 'The discovery (says he) of printing books in relief, is one of the most important for the instruction of the blind. It is by the assistance of these books, which have no other inconvenience than that of being bulky, that they are taught the elements of languages, and fix in their minds the beautiful passages of history and morality which they have learnt; for they know much better what they have read, than what they have heard, and we therefore augment as far as our means will admit the library of the blind with works which we think fitted for their instruction. They have already two catechisms, the office for morning and evening, French, Latin, Greek, English, and Italian grammars. One would hardly believe with what rapidity they read in these books, if we did not see it at the public exercises. The use of a thicker ink, or one which would dry and be felt on the paper, has been tried it seems here and failed. By means of these books the blind are even said to teach young people who can see to read, and these in return then become their preceptors in many useful acquirements.

Writing is taught by means of a wide thick board, having a fixed bottom. Upwards there is a parallelogram opening with hinges on the left side, and kept shut on the right by two small copper bolts. An improvement has been lately made, by substituting instead of a wooden bottom a thick silk which receives and retains the traces of the letters from the stilet or pencil; this affords the blind man the advantage of reading what he has written. Mr. Heilman, a blind man, who proposed this improvement, has also contrived a portative portfolio for the blind, by means of which they may write, and read directly with the greatest ease what they have written. This frame is furnished with several movable rods of iron. Below its two great ascending pannels, there is on each side a broad steel spring, stretching from one extremity to the other, fixed at one end by two English screws, and at the other only stopped at pleasure by a turning bolt. It is between these springs and the lower part of the sides of the frame that the paper is placed, which remains immovable under the rods. The mathematics are taught on an improvement of Saunderson's method, by rejecting the symbols

that have merely an arbitrary value. The letters and cyphers which we make use of at present, (says Dr. G.) are in no respect different from the common ones. These cyphers are mounted on a transversal chevron, the fractions are mounted in the same manner, but the upper part of the chevron is hollowed in a square form to receive a movable cylinder in the form of a wedge, by means of which the numerator and denominator are indicated, and then the necessary changes. Strings that may be placed horizontally or vertically, serve to indicate the divisions of the numbers.

'People (he continues) are astonished to see our pupils go through a course of optics as well as those who see, and they admire their sagacity in speaking of dioptrics and catoptrics. As we do not wish to enjoy an admiration that is unmerited, we must declare that what makes the demonstration of all the phenomena of optics easy to them, is that they reduce every thing to lines. They perceive only palpable points where we see colored prints; for they have not, nor can they have any idea of colors.' Yet the following anecdote approaches to some idea. 'One of the pupils at the institution, translating at a public exercise the first strophe of the second ode of the first book of Horace, was stopped at these words, *et rubente dextera*, &c. by the examiner, who asked him the proper translation of the words *rubente dextera*: the young man translated it, his flaming right hand. Being pressed again to translate literally the epithet *rubente*, he gave the equivalent red. Being asked again what he understood by a red arm, he answered that he did not think, like Locke's blind man, that the color red was like the sound of a trumpet; nevertheless he could form no proper idea of it, but that he had at first translated *rubente*, flaming, because he had been told that fire is red, whence he had concluded, that heat is always accompanied by redness, which determined him to mark the anger of Jupiter by the epithet flaming, because when one is irritated one is hot, and when one is hot, one must be red.'

At an early period of the Paris institution, the pupils of the deaf and dumb school were mixed with them at the same convent, and various successful and unsuccessful attempts were made by each of these interesting groups of children, to communicate with the others. At first when the blind had learnt that the deaf and dumb spoke to each other in the dark, by writing on the back, they conceived that this method might succeed also with them. This new language soon became common to the two families; the deaf and dumb, who found it tiresome to have written on their back what they could see perfectly well, attempted to make the blind write in the air, as they do themselves; this means, which was as long as the former, appeared more uncertain, as the blind wrote ill in that way; they therefore preferred the characters the latter made use of; but as these characters cannot be easily transported, the dumb taught the blind their manual alphabet, and the one by sight and the other by touch, easily found by the inspection of their fingers, the letters that are formed by their different combinations. Nevertheless this

manual alphabet only exhibiting words, slackened conversation amazingly. They felt the want of a more rapid communication, and the blind learnt the theory of the signs of the deaf and dumb: each sign thus representing a thought, the communication was complete. This study was long and tedious, because it supposes a pretty complete knowledge of grammar: but the wish to talk got the better of all these difficulties, and in a few months, the signs being perfectly well known, took place of all the other means till then employed. The exchange between them was performed in the following manner. 'When the blind had to speak to the deaf and dumb, he made the representative signs of his ideas, and these signs more or less exactly made, transmitted to the deaf and dumb the idea of the blind. When the deaf and dumb in his turn wished to make himself understood, he did it in two ways; he stood with his arms stretched out and motionless before the blind person, who took hold of him a little above the wrists, and without squeezing them, followed all the motions they made; or if it happened that the signs were not understood, the blind man put himself in the place of the deaf and dumb, who then took hold of his arms in the same manner, and moving them about as he would have done his own before a person who could see, he filled up the deficiencies of the first operation, and thus completed the series of ideas which he wished to communicate to his companion. 'But the degree of instruction of the scholars not being the same, they could not make use of the signs equally well.' In fact it sometimes became a mournful failure altogether. See DEAF AND DUMB. And for the first effects of sight on those who have been couched, See COUCHING.

BLINDNESS, in farriery, a disease incident to horses, especially those of an iron-gray, or dapple-gray color, when ridden too hard, or backed too young. It may be discovered by the walk, which in a blind horse is always unequal, because he dares not set down his feet boldly when led; though if the same horse be mounted by an expert horseman, and if himself be metted, the fear of the spur will make him go more freely; so that his blindness can hardly be perceived. Another mark of loss of sight is, that upon hearing any body enter the stable, he will prick up his ears, and move them backwards and forwards, being in continual alarm by the least noise. Dr. Lower first showed the ordinary cause of blindness in horses, which is a spongy excrescence, growing in one, sometimes in two, or three places of the uvea, which being at length overgrown, covers the pupil when the horse is brought into the light, though in a dark stable, it dilates again. Horses that lose their sight at certain periods of the moon, are said to be moon-blind.

BLIND RAMPART, *cæcum vallum*, among the ancients, was that beset with sharp stakes, concealed by grass or leaves growing over them.

BLIND WORM, *n. s.* *Cæcilia*; from blind and worm. A small viper, called likewise a slow worm; believed not to be venomous.

The greater slow worm, called also the *blind worm*, is commonly thought to be *blind*, because of the littleness of his eyes. Grew.

You spotted snakes, with double tongue,
Thorny hedgehogs, be not seen;
Newts and *blindworms*, do no wrong;
Come not near our fairy queen. *Shakspeare.*

BLINK', *u. & n.* See *To BLANCH*, and *To BLINK'ERS*, } *BLENC*. To blink, is to
BLINK'ING, } give the eye the twinkling
BLINK'ARD, } motion or apparent action
BLINK'EYED. } of a star; to twinkle; to
wink; to look with the eye partially closed; and as
this is frequently done to avoid, evade, escape,
elude, shun, or shrink from any sudden action
upon the eye; to blench or to blink is consequently
to avoid, or cause to avoid; to evade; to escape;
to elude; to shun, shrink, or start from.—*Ency.*
Met. art. BLINK. It also is used to mean see-
ing obscurely; and for the winking which indi-
cates any thing rather than evasion, or a desire
to avoid.

The swete visage, and amorous *blinking*
Of fair Creside, sometime his own darling. *Chaucer.*

The amorous *blyncks* flee to and fro,
With sugred words that make a show,
That fansie is well pleased withall,
And findes itself content. *Turberville.*
What's here! the portrait of a *blinking* ideot. *Shakspeare.*

Sweet and lovely wall,
Shew me thy chink, to *blink* through with mine eye.
Id. Midsummer Night's Dream.

In some parts we see many glorious and eminent
stars, in others few of any remarkable greatness, and
in some none but *blinkards*, and obscure ones.

Hakewell.
For as with pigmies who best kills the crane,
Among the hungry he that treasures grain,
Among the blind the one-eye'd *blinkard* reigns,
So rules among the drowned he that drains. *Marcell.*

So politick, as if one eye
Upon the other were a spy;
That, to trepan the one to think
The other blind, both strove to *blink*. *Hudibras.*

His figure such as might his soul proclaim;
One eye was *blinking*, and one leg was lame. *Pope.*

This floor let not the vulgar tread,
Who worship only what they dread,
Nor bigots who but one way see,
Through *blinkers* of authority. *Green. The Grotto.*

BLINKS, among ancient sportsmen, denoted
boughs broken down from trees, and thrown in
the way where deer were likely to pass, to hinder
their running, or rather to mark which way the
deer ran, in order to guide the hunter.

BLINKS, in botany. See *MONTIA*.

BLISS', } Sax. *blisse*, from *blissarian*,
BLISS'FUL, } to rejoice. The highest de-
BLISS'FULLY, } gree of happiness; blessed-
BLISS'FULNESS, } ness; felicity; generally
BLISS'LESS, } used of the happiness of
BLISS'EDNESS, } blessed souls. See *To*
BLISS'EDLY. } BLESS.

Ther—as a wedded man in his estat,
Liveth a life *blisful* and ordinat,
Under the yoke of marriage ybond:
Wel may his herte in joye and *blisse* abound.
Chaucer. Canterbury Tales.

Yet swimming in that sea of *blissful* joy,
He nought forgot. *Faerie Queene.*
A mighty Saviour hath witnessed of himself, I
am the way; the way that leadeth us from misery
into *bliss*. *Hooker.*

Dim sadness did not spare
That time celestial visages; yet mixed
With pity, violated not their *bliss*. *Milton.*
With me
All my redeemed may dwell, in joy and *bliss*. *Id.*
Reaping immortal fruits of joy and love,
Uninterrupted joy, unrivalled love,
In *blissful* solitude. *Id.*
The two saddest ingredients in hell, are depriva-
tion of the *blissful* vision, and confusion of face. *Hammond.*

So peaceful shalt thou end thy *blissful* days,
And steal thyself from life by slow decays. *Pope.*
First in the fields I try the silvan strains;
Nor blush to sport on Windsor's *blissful* plains. *Id.*
Condition, circumstance, is not the thing;
Bliss is the same in subject or in king. *Id.*
Sometimes with Scipio she collects her sail,
And seeks the *blissful* shore of rural ease. *Thomson.*

BLISTER *v. & n.* Dutch *bluyster*; perhaps
blæst, from Ang.-Sax. *blastan*. To blow, to
puff up as a pustule, or blain. A pustule formed
by raising the cuticle from the cutis and filled
with serous blood. This is sometimes the effect
of disease, of accident, and of design.

In this state she gallops, night by night,
O'er ladies' lips, who strait on kisses dream,
Which oft the angry Mab with *blisters* plagues,
Because their breaths with sweetmeats tainted are. *Shakspeare.*

Look, here comes one, a gentlewoman of mine,
Who falling in the flaws of her own youth,
Hath *blistered* her report. *Id.*

Such an act
That blurs the grace and blush of modesty;
Calls virtue hypocrite; takes off the rose
From the fair forehead of an innocent love,
And sets a *blister* there. *Id.*

If I prove honeymouth, let my tongue *blister*,
And never to my red-looking anger be
The trumpet any more. *Id.*
Upon the leaves there riseth a tumour like a *blister*. *Bacon.*

I found a great *blister* drawn by the garlick, but had
it cut, which run a good deal of water, but filled again
by next night. *Temple.*
I *blistered* the legs and thighs; but was too late: he
died howling. *Wiseman.*

Embrace thy knees with loathing hands,
Which *blister* when they touch thee. *Dryden.*

Blistering, cupping, bleeding, are seldom of use
but to the idle and intemperate; as all those inward
applications, which are so much in practice among us,
are, for the most part, nothing else but expedients to
make luxury consistent with health. *Spectator.*

BLISTER, in surgery and medicine, vesicato-
rium; epispasticum. 1. The name of a topical
application, *epastrum vesicatorium*, which when
put on the skin raises the cuticle in the form of
a vesicle, filled with serous fluid. Various sub-
stances produce this effect; but the powder of
the cantharis, or blistering fly, is what operates
with most certainty and expedition, and is now
invariably used. It is an established principle,
that where morbid action exists, it may often be
removed from the system by inducing an action

of a different kind in the same or a neighbouring part. On this principle is explained the utility of blisters in local inflammation and spasmodic action, and it regulates their application in pneumonia, gastritis, hepatitis, phrenitis, angina, rheumatism, cholic, and spasmodic affections of the stomach; diseases in which they are employed with the most marked advantage. A similar principle exists with respect to pain; exciting one pain often relieves another. Hence blisters give relief in tooth-ache, and some other painful affections. Lastly, blisters, by their operation, communicate a stimulus to the whole system, and raise the vigor of the circulation. Hence, in part, their utility in fevers, of the typhoid kind, though in such cases they are used with still more advantage to obviate or remove local inflammation.

Practitioners used formerly to mix powder of cantharides with an ointment, and dress the part with this composition. But such a dressing not unfrequently occasioned very painful affections of the bladder, a scalding sensation in making of water, and very afflicting stranguries. The treatment of such complaints consists in removing every particle of the fly from the blistered part, making the patient drink abundantly of mucilaginous drinks, giving emulsions and some doses of camphor. These objections to the employment of salves containing the lytta, for dressing blistered surfaces, led to the use of mezereon, euphorbium, and other irritating substances, which, when incorporated with ointment, form very proper compositions for keeping blisters open, which they do without the inconvenience of irritating the bladder, like the blistering fly. The favorite application, however, for keeping open blisters, is the savine cerate. On the use of the savine cerate, immediately after the cuticle raised by the blister is removed, it should be observed that experience has proved the advantage of using the application lowered by a half or two thirds of the unguentum ceræ. An attention to this direction will produce less irritation and more discharge, than if the savine cerate were used in its full strength. Fomenting the part with flannel, wrung out of warm water, has been found a more easy and preferable way of keeping the blistered surface clean, and fit for the impression of the ointment, than scraping the part, as has been directed by others. An occasional dressing of unguentum resinæ flavæ, is a very useful application for rendering the sore free from an appearance of slough, or rather dense lymph, which has sometimes been so firm in its texture as to be separated by the probe, with as much readiness as the cuticle is detached after blistering. As the discharge diminishes, the strength of the savine dressing should be proportionally increased. The ceratum sabine must be used in a stronger or weaker degree, in proportion to the excitement produced on the patient's skin.

BLITE, in botany. See BLITUM.

BLITH. See BLYH.

BLITHE, } *Belithe, belithesome, belissom,*
BLITH'LY, } *or blithe, blithesome, blissom.*
BLITH'SOME, } See BLEST. Gay; sprightly;
BLITH'NESS. } cheerful; lively; joyous;

freshness of spirits; the high pulsation of corporeal and mental health, not often possessed, especially by compilers of dictionaries.

Would'st see *blithe* looks, fresh cheeks, beguile
Age? would'st see December smile? *Crashaw.*

We have always one eye fixed upon the countenance of our enemies; and, according to the *blithe* or heavy aspect thereof, our other eye sheweth some other suitable token either of dislike or approbation.

Hooker.

Then sigh not so, but let them go,
And be you *blithe* and bonny. *Shakespeare.*

For that fair female troop thou sawest, that seemed
Of goddesses, so *blithe*, so smooth, so gay;
Yet empty of all good. *Milton.*

To whom the wily adder, *blithe* and glad:
Empress! the way is ready, and not long. *Id.*

And the milkmaid singeth *blithe*,
And the mower whets his scythe. *Id.*

Blither than hare that hath escaped the hounds,
The house prorogued, the chancellor rebounds. *Marvell.*

Frosty blasts deface

The *blithesome* year: trees of their shrivelled fruits
Are widowed. *Philips.*
Should he return, that troop, so *blithe* and bold,
Precipitant in fear, would wing their flight. *Pope.*

BLITUM, the Blite: a genus of the digynia order, monandria class of plants; natural order, twelfth, holoracæ: CAL. trifid; no petal: SEED single, included in a berry-shaped calyx. There are three species, viz. 1. *B. capitatum*, with flowers in clustered heads at the joints and crown of the stalks, a native of Spain and Portugal, but has been long preserved in the British gardens, for the beauty of its fruit. 2. *B. Tartaricum* with triangular acutely indented leaves, a native of Tartary. 3. *B. virgatum*, with small heads growing from the sides of the stalks, a native of the south of France and Italy. It seldom grows more than a foot high; the leaves of the same shape with those of the *capitatum*, but smaller.

BLOAT, *v. & adj.* } Probably from *blow*.

BLOAT'EDNESS. } See BLOW. To swell with wind; to grow turgid; to be swollen with intemperance; turgidity.

The *bloat* king. *Shakespeare. Hamlet.*

His rude essays

Encourage him, and *bloat* him up with praise,
That he may get more bulk before he dies. *Dryden.*
I cannot but be troubled to see so many well-shaped
innocent virgins *bloated* up, and waddling up and
down like big-bellied women. *Addison.*

If a person of a firm constitution begins to *bloat*,
from being warm grows cold, his fibres grow weak.

Arbuthnot.

Lassitude, laziness, *bloatedness*, and scorbutical spots,
are symptoms of weak fibres. *Id.*

Fast by her side a listless maiden pined
With aching head and squeamish heartburnings;
Pale, *bloated*, cold, she seemed to hate mankind,
Yet loved in secret all forbidden things. *Thomson.*

BLOATED FISH, or BLOATED HERRINGS, in our statutes, are those which are half dried. See Stat. 18 Car. II. c. 2. They are made by steeping them in a peculiar brine, and then hanging them in a chimney to dry.

BLOATING, in medicine, a puffing up of the exterior habit of the body, lodged chiefly in the adipose cells. It is styled by physicians emphysema.

BLOB'BER, n. s. From *blob*. A word used in some counties for a bubble.

There swimmeth also in the sea a round slimy substance, called a *blobber*, reputed noisome to the fish.

Carew.

BLOB'BERLIP, n. s. From *blob*, or *blobber* and *lip*. A thick lip.

They make a wit of their insipid friend, His *blobberlips* and beetlebrows commend. *Dryden.*

BLOB'LIPPED, adj. } Having swelled or
BLOB'BERLIPPED, } thick lips.

A *blobberlipped* shell, seemeth to be a kind of mussel. *Grew.*

His person deformed to the highest degree; flat-nosed, and *blobberlipped*. *L'Estrange.*

BLOCH (George Castaneus), bishop of Ripen, in Deumark, was born in 1717, and died in 1773. He published *Tentamen Phœnicologices Sacra*, &c. 8vo. Hafn. 1767.

BLOCH (Mark Eliezer), a Jew, and a naturalist of Anspach, was born in 1723, and died in 1799. He was the author of *Ichthyologie oder Naturgeschichte der Fische*, 12 vols. 4to. Berlin. 1785; besides a Treatise on the Generation of Worms in the Intestines, and another on the Waters of Pymont, &c.

BLOCK', v. & n. } From the Ang.-Sax.
BLOCK'ADE, v. & n. } lican, belican; to shut;
BLOCK'HEAD, } to close; to shut up; to
BLOCKHEAD'ED, } lock; quoted by the Ency.
BLOCK'HEADLY, } Met. from Somner. A
BLOCK'HEADISM, } block is a piece of tim-
BLOCK'HOUSE, } ber, or other substance,
BLOCK'ISH, } capable of being placed
BLOCK'ISHLY, } any where; to close up
BLOCK'ISHNESS, } an avenue, or to obstruct
BLOCK'LIKE. } ingress, either to include

or exclude. It also is applied to any mass of matter, which in a rude or artificial shape may be used for various manual purposes, and employed in mechanics and naval architecture. Blockhead is metaphorically used to designate a lumpish, stupid, heavy, dull-witted animal of the human species. In this application it would be more correct to drop the *head* as superfluous, and to convert the adjective into the substantive.

—— with blade all burning bright
He smott off his left arme, which like a *block*
Did fall to ground, deprived of native might.

Spenser.

The country is a desert, where the good
Gained inhabits not; born 's not understood;
There men become beasts, and prone to all evils;
In cities *blocks*. *Donne.*

What tongueless *blocks* were they, would they not
speak? *Shakspeare. Richard III.*

Rochester water reacheth far within the land, and
is under the protection of some *block-houses*.

Raleigh.

Can he ever dream, that the suffering for righteousness' sake is our felicity, when he sees us run so from it, that no crime is *block* enough in our way to stop our flight?

Decay of Piety.

Recommend it to the governor of Abingdon, to send some troops to *block* it up, from infesting the great road. *Clarendon.*

The states about them should neither by increase of dominion, nor by *blocking* of trade, have in it their power to hurt or annoy. *Id.*

At the instant of his death, having a long beard, after his head was upon the *block*, he gently drew his beard aside, and said, This hath not offended the king. *Bacon.*

Says a *blockheaded* boy, these are villainous creatures. *L'Estrange.*

Small causes are sufficient to make a man uneasy, when great ones are not in the way: for want of a *block*, he will stumble at a straw. *Swift.*

Some have mistaken *blocks* and posts,
For spectres, apparitions, ghosts.

Butler. Hudibras.

We idly sit like stupid *blockheads*,
Our hands committed to our pockets. *Id.*

A *blockhead* rubs his thoughtless skull,
And thanks his stars he was not born a fool.

Pope.

Round the goddess roll
Broad hats and hoods, and caps, a sable shoal;
Thick, and more thick, the black *blockade* extends.

Id.

The enemy was necessitated wholly to abandon the *blockade* of Olivenza. *Tatler.*

Homer's apotheosis consists of a groupe of figures; cut in the same *block* of marble, and rising one above another. *Addison.*

BLON'KET, n. s. I suppose for blanket.

Our *blonket* livery's been all too sad

For thilke same reason, when all is yclad

With pleasure.

Spenser.

BLOCK, in architecture, statuary, &c. a piece of marble from the quarry, before it has received any form.

BLOCK, in carving of wood, is a form made of pear-tree, box, or other hard and close-grained wood, free from knots, on which figures are cut in relievo, with knives, chissels, &c.

BLOCK, in falconry, the perch whereon a bird of prey is kept. It is covered with cloth.

BLOCK, in geography, a small island of the United States, belonging to Rhode Island, lying twenty-one miles S. S. W. of Newport. It was incorporated in 1672, by the name of New Shoreham Township. It is a division of Newport county, and is the most southerly land in the state. The shores abound with great variety of fish.

BLOCK, in mechanic arts, a large piece of solid wood whereon to fasten work, or to fashion it; strength and stability being the requisite properties. In this sense, we say a chopping *block*; a sugar-finer's *block*, &c.

BLOCK, MOUNTING, an eminence usually of stone, but in steps or notches, serving as a help to mount on horseback. These were much in use among the ancients, who were unacquainted with stirrups. The Romans erected them at proper stations all along their great roads. See *ANABATHRA*.

BLOCKS, in the navy and marine architecture, are a species of pulley very extensively used for the purposes of forming and regulating tackle, the lifting and removing of guns, anchors and stowage; they are also in use occasionally for other architectural and heavy works. The mechanical power employed is clearly that of the pulley, and the construction of this article having hitherto been very simple, and its appearance homely, it has received a name like the butchers' and the barbers' *block*, which would

indicate it to come from the hand of nature rather than that of art.

They are designated generally by the number of sheaves, as they are called, i. e. wheels or pulleys, which the shell, or outside, can contain; and hooks, ropes, chains, &c. are attached to them in various ways. The annexed diagrams represent—fig. 1 the single, fig. 2 the double, fig. 3 the treble, and fig. 4 the fourfold blocks, in common use.

Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.



The single block contains only one sheave, or wheel; a double block, as may be inferred, has sheaves, one below the other; and so on.

The shells of very large blocks are made of separate pieces of wood, as the cheeks of the shell, its partitions, &c. These are called made blocks. The shell is formed of several pieces of elm plank, suited to the cheeks, sheave-holes, and partitions, and is strongly bolted together by three bolts at each end, driven through and riveted, with a washer, at the points.

Blocks are again divided into thick and thin blocks; the former being intended to receive large ropes, and the latter small ones. The following may serve as a general idea of the mode of making the common kind of blocks, in private yards, and in the old way, before the introduction of the block-machinery in our dock-yards:—

The shells being sawn to their length, breadth, and thickness, the corners or angles are sawn off. The workman then gauges, or marks out the size of the sheave-hole in the middle, one-sixteenth larger than the thickness of the sheave, and once the thickness longer than the diameter, for a single-sheaved block. In blocks of two sheaves the partition is kept in the middle, and is one-sixth less than the sheave-hole; each sheave-hole is gauged on the two opposite sides, and in the same manner for blocks with a great number of sheaves. The blocks are then jammed up edge-ways, with wedges, in a clave, or frame, and the sheave-holes are made in this manner: the length and breadth are first gauged out, and

holes are bored half way through the block, along the part gauged out, with an auger of the size of the sheave-hole; then the sheave-hole is gauged, and bored on the opposite side in the same manner, so as to meet the opposite holes. Blocks from ten inches and upwards have one hole bored at each end and cut through with a chissel, and the wood is sawed out with a rib-saw. All blocks have the sheave-holes cleared by chissels, and by burrs at the corners. Blocks that are to have iron straps should have the straps fitted on before the wood is cut out of the middle. The hole for the pin is bored through the middle of the block, one-tenth less than the diameter of the pin. The outsides and edges of the shell are next rounded off by the stock-shave, and neatly finished by the spoke-shave. In the royal navy, blocks are left thick upon the edges of the cheeks, but, in merchant-ships, the edges are sometimes thinned off to a small square, and somewhat rounded off.

The scores, which are the grooves to receive the strap, are gauged out along the outside of the cheeks, and tapered in depth from nothing at the pin, to half the thickness of the strap, at the ends of the block, for a single score; and the same on each side of the pin for double scores, which are made when the block is to have double straps. The scores are gauged down across the breast of the block, to half the size of the strap, in order to allow for the serving. After the score is cut, the sheaves are fitted; they are one-tenth thicker than the diameter of the rope intended for running on them, and five times that thickness in diameter. The hole for the pin should be bored through the centre of them by a bit, fixed in the mandrel of a turning lathe, or with a stock and bit, and opened out with an auger, one-sixteenth larger than the pin, that it may easily turn. They are then put in a lathe and turned smooth, and the outer circumference hollowed one-third of its thickness, that the rope may embrace it closely.

The diameter of the pin is the thickness of the sheave, and is turned in a lathe, except its head, which is left octagonal, to prevent its turning in the block; and the pin is driven through the holes in the block and sheaves. After the sheaves are fitted, the inside of the sheave-hole, at one end of the block, is gauged hollow, to admit the rope, and correspond with the sheaves; and a small neat chamfer is taken off the edges. The proportions for single, double, treble, fourfold, and other blocks, are,—the length is eight times the breadth of the sheave-hole, which is one-sixteenth of an inch more than the thickness of the sheave; the thickness of the sheave is one-tenth more than the diameter of the rope it is intended for; and the diameter of the sheave is five times the thickness. The breadth of the block to be six times the thickness of the sheave, and the thickness to be one-half the length, or nearly so. Flat thin blocks must be three-eighths of the length thick; but all blocks having more than one sheave, increase their thickness more, in the above proportion, by the additional number of sheave-holes, and middle parts, or partitions; the thickness of each partition to be one sixth less than the breadth of the sheave-hole. These are the general dimensions, but they sometimes

BLOCKS. *Various Specimens.*

Fig. 1.

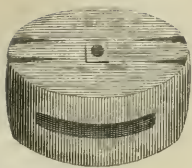


Fig. 2.

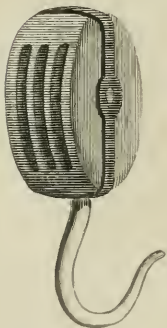


Fig. 3.

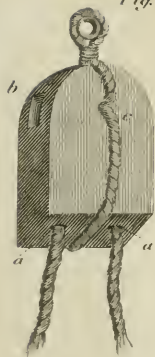


Fig. 5.

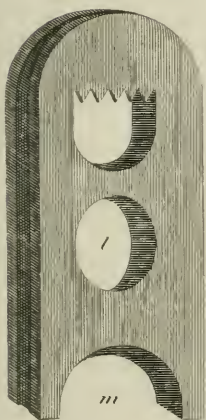


Fig. 4.

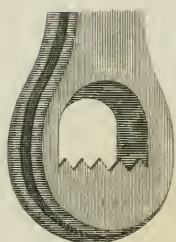


Fig. 6.

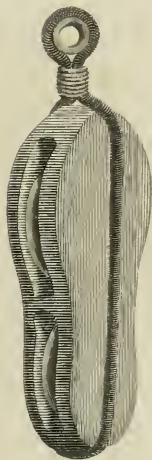


Fig. 7.

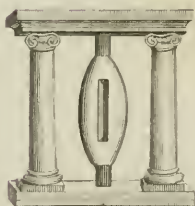


Fig. 8.

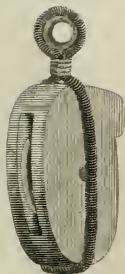


Fig. 9.

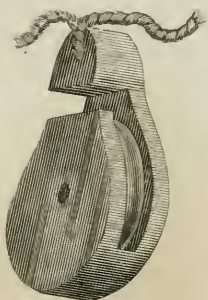
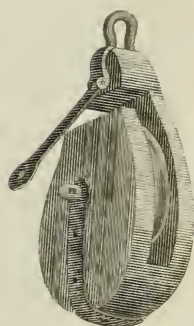


Fig. 10.



vary, according to the use for which they are intended.

In the shell is fixed the sheave or sheaves, which are circular pieces of wood (usually *lignum vitæ*), or sometimes brass, or cast metal, with a groove, turned on its edge, for the reception of the rope; and, in the best blocks, called coaked sheaves, the sheave has a brass bush fitted in the centre, with a round hole through it to receive the pin.

The pin, or axis, on which the sheave revolves, is made of *lignum vitæ*, cocus, or a West India wood, called green-heart; but the best blocks have brass pins. The pin is supported by passing through the sides of the shell of the block, which is made of elm, ash, or other tough wood, with a hole morticed through it, to receive the sheave, and confine it to revolve steadily, though freely, upon its pin, and at the same time keep the rope from getting off the groove in the edge of the sheave. When the block contains two or more sheaves, as many mortises are made. Sometimes the same pin serves all the sheaves, and at other times the sheaves are placed one above the other; having, of course, separate pins.

The strap is a rope, or, in some cases, a band of iron, encompassing the shell of the block, in a notch, or scoring, cut round the block to receive it. The strap terminates in an eye of rope, or hook of iron, by means of which one of the blocks of a tackle is attached to the object upon which it is to act as a mechanical power, while the other block is suspended from some fixed support. The former is called the running-block, and the latter the standing-block.

We can only specify a few of the principal blocks of other descriptions in common use.

Bee Blocks are generally made of elm; they are seven-ninths the length of the bee, and two inches in depth, for every foot in length, and seven-eighths that depth in thickness. They are trimmed square, chamfered on the outside edges, and fitted with a sheave in one end: a hole is cut in the other end, to be fitted with a sheave should the other fail. The sheave-hole is two-sevenths the length of the block, and one-fourth the length of the sheave-hole in breadth, and half the length of the sheave-hole within the end. Bee-blocks are bolted to the bow-sprit at the outer end under the bees, and the bolts serve as the axis, or pin, for the sheave to work on; the fore-topmast stay reeves through the sheave-hole at the foremost end of the starboard bee-block; and the fore-topmast-preventer, or springstay, through the sheave-hole at the after end of the larboard bee-block.

Cat-Blocks are two or three-fold, with an iron strap and a large hook to it, and employed to draw the anchor up to the cathead.

Cheek-Blocks are half shells, bolted against the masthead; the chief bolt serves for the pin of the sheave; they receive the halyards and stays of their respective masts.

Clew-garnet-Blocks have single sheaves, and are suspended from the yards by a strap with two eyes; a lashing surrounds the yard, and passes through the eyes so as to suspend the block beneath the yard: these blocks receive the clew-garnets, or ropes, which haul up the clews of

the sail; this is applied to the main and fore-yard.

Clew-line-Blocks are for the same purpose as the preceding, but applied to the top-sails, top-gallant, and sprit-sails. A great improvement has lately been made in these blocks by Mr. Brunell, inventor of the block machinery at Portsmouth. The old clew-line and clew-garnet blocks, for they are the same except in size, were a single sheaved block, strapped with two eyes, as above; a knot was made in the end of the clew-line, or garnet, just at the place where it was attached to the clew of the sail, to prevent the corner thereof being drawn into the block. This was not effective, and frequent inconvenience arose; for the sail being so constantly in motion, the rope had a great tendency to get entangled with the sail, and drawn over the sheave. The improved block in question is shown in fig. 3. The two holes at *aa* are where the ropes go in and out again. The sheave is situated in the centre of the block, so as to be wholly enclosed, except a mortice at *b*, where the sheave is put in. The strap surrounds the lower part of the block; then both ends pass through a hole in the upper part about *c* crossing each other. They are then formed into an eye, by which the block is suspended from the yard. By this means no accident can happen, as the garnet, or rope, is so enclosed in the block, that it cannot be deranged by any violence, nor the sail be drawn into the block.

D-Blocks are lumps of oak in the form of the letter D, from twelve to sixteen inches long, and eight or ten feet wide. They are bolted to the ship's side in the channels, to receive the lifts, &c.

Deep-sea-line-blocks are small wooden snatch-blocks (see forward), about from nine to eleven inches long.

Fish-Block is hung in a notch at the end of the davit, and serves to haul up the flukes of the anchor to the ship's bow.

Girtline-Blocks, in rigging, the foremast, main, and mizen-mast, are lashed round the masthead, above the top of the cap; one to hang on each side. The girtlines that reeve through them, lead down upon deck, for hoisting the rigging, tops, and crossrees, and the persons employed to place the rigging over the masthead.

A Heart Block is a block of wood, with a large hole in the centre, at the bottom of which are four or five scores round the outside, a groove is cut to admit of a rope, called a stay, &c.

A Heart, is sometimes (fig. 5) used in the merchant service, with a round hole *l*, for the heel of the gib-boom to rest in, which is bevelled for that purpose. The bottom of the heart *m*, is also bevelled according to the steeves of the bow-sprit.

Long-tackle Blocks, have two single sheaves (fig. 6) placed one above the other, in the same shell. The lower sheave is only two thirds the size of the other; it is used in combination with a common single block, to form the long tackle, for loading, or any other purchase. In the Royal Navy and East India service they are used as yard tackles. The rope is reeved through it in the same manner as it would be through a common double block; but it is preferred, where it is convenient, because the strap being in the cen-

tre of the resistance, it hangs more steadily than when the sheaves are on one pin.

The *Main-sheet Block*, is used for the sheet tackle of the main-sail-booms of small vessels. The pin projects from each side of the block, being, in all, the same length as the block; the fall or rope of the tackle is belayed or twisted round this pin, to stop it. This block is either single or double, and has a hole through the end, to receive its strap.

Monkey Blocks, are sometimes used on the lower yards of small merchant ships, to lead, into the mast or down upon the deck, the running rigging belonging to the sails. Some are only small single blocks, attached, by a strap and iron swivel, to iron straps, which embrace and nail to the yard, the block turning to lead the small running ropes in any direction; others are nearly eight square, with a roller working in the middle, and a wooden saddle beneath, to fit and nail to the yard.

Nine-pin Blocks are in shape something like the nine pins (fig. 7) from which it derives its name, though flattened on the sides, and used to lead the running ropes in an horizontal direction. Their lengths are generally confined to the place in which they are fixed; and this is, for the most part, under the cross-pieces of the fore-castle and quarter-deck bits. The breadth of the block, sheave, &c. is governed by the rope, and taper at the ends, to three-eighths of the breadth of the middle: the pins at each end, serving as a vertical axis, are two-thirds of the size of the end, and the thickness is five-eighths of the breadth. These blocks may be turned in a lathe, and flattened after with a spoke-shave.

Shoe Blocks, are two single blocks, cut in a solid piece, transversely to each other, so that the sheave of the upper one lies in a contrary direction to that of the lower one; they serve for legs and falls of the bunt-lines, but are seldom used.

A *Shoulder Block* (fig. 8) is a large single block, left nearly square at the upper end, and cut sloping in the direction of the sheave. These blocks are used on the lower yard-arms, to lead in the topsail sheets; and, on topsail-yards, to lead in the top-gallant-sheets; and, by means of the shoulder, are kept upright, and prevent the sheets from jamming between the block and the yard; they are also used at the outer end of the boomkins, to lead in the fore-tackle.

Sister Blocks, are similar to two single blocks, and formed out of a solid piece, about twenty inches long, one above the other. Between the blocks is a scoring for a middle seizing; a round head is turned at each end, and hollowed underneath, to contain the end seizings; along the sides, through which the pins are driven, is a groove or scoring, large enough to receive part of the topmast shrouds, in which it is seized. These blocks receive the lifts and reef-tackle pendants of the topsail-yards.

A *Snatch Block* (fig. 9) has a single sheave, with a notch cut through one of its cheeks, to admit the rope, or fall, to be lifted in and out of the block, without putting its end through first. The strap does not, in this, surround the block, but is put through a hole, bored through the

divided end. The figure is represented with two tails, which may be made up for a hook, a thimble, or eye, according to the situation where it is to be used, which is, generally, for the main, or fore-sheet, blocks of square-rigged vessels.

Snatch Blocks are also (fig. 10) iron bound, terminating at the notched end of the block, with a swivel-hook, or an eye bolt, large enough to receive several turns of lashing, which fastens the block to its fixed support. That part of the strap over the notch, in the side; lifts up with a hinge, and is confined down, when the rope is in the block, by a small pin, put across, through the end of the pin of the sheave, which projects up from the block sufficiently to pass through an eye made in the hinge part of the strap. The strap on the other part of the block is let into the block, and confined by the pin and some nails. These blocks are used for heavy purchases, where a warp, or hawser, is brought to the capstan.

Strap-bound Blocks are single blocks, with a shoulder left on each side, at the upper part, to admit the strap through, a little above the pins. These blocks are used at the clews of the quarter-sails, for the clew-garnets or clew-lines; and, under the yards, the shoulder preserves the strap from chafing.

Thick and Thin, or Quarter Block, is a double block with one sheave thicker than the other, and is used to lead down the topsail-sheets, and intended for the clew lines; a single block would be cheaper and better, as the thin sheave is seldom used for the clew lines, it being found rather to impede than to facilitate their movements.

Voil, or Voyal blocks, are single sheave blocks. The length is ten times the thickness of the sheave-hole, which is three-eighths more than the thickness of the sheave; the thickness of the sheave is one-tenth more than the diameter of the voil; and the diameter of the sheave is seven times the thickness. The breadth of the block should be eight times the thickness of the sheave; and the thickness two-sevenths of the length. This block is double-scored, the sheave is coated with brass, and the pin is iron, and nearly as thick as the sheave. It is used in heaving up the anchor. The voil passes round the jear capstan, and through the block, which is lashed to the main-mast, and the cable is fastened, in a temporary manner, to the voil in several places. It is seldom used, except in the largest ships of the royal navy.

The blocks lashed to a ship's principal yards are: To the lower yards.—The jear block, buntline blocks, leech-line block, lift blocks, and topsail-sheet blocks, strapped together; quarter and slab-line blocks, strapped together; clew-garnet blocks, tricing blocks, preventer-brace blocks; pendant blocks, studding-sail-halyard blocks.

To the topsail-yards.—Buntline and tye-blocks, strapped together; top-gallant-sheet block, and lift block, strapped together; jewel block, and brace-pendant blocks, clew-line blocks, and block to lead down the top-gallant sheets.

To the top-gallant-yards.—Jewel, clew-line, and brace-pendant blocks.

To the mizen-yard.—Jear block, derrick block, signal-halyard block, throat-brail, middle-brail, and coak-brail blocks.

To the cross-jack-yard.—Quarter blocks, jear blocks, and lift and topsail-sheet blocks, strapped together.

To the bowsprit.—The bee block, bolted to the bowsprit at the outer end, under the bees; fore-bow-line blocks, lashed on each side the forestay-collar; fore-topsail-bowline block, lashed to an eye-bolt in the bowsprit-cap.

Block House, in military affairs, is a name sometimes given to a permanent brick or stone fort able to resist cannon shot. Such an one formerly stood on the bridge of Dresden; and it is generally built on a bridge, or on the brink of a precipice or river, serving to command a pass, river, or ford. A wooden fort of this kind is sometimes made to move on wheels or rollers, and is sometimes erected on a vessel, &c. Its design is to defend a party against musketry. There is a model of one constructed by Major Gordon of the Artillery, in the Royal Military Repository at Woolwich. It was made during the late contest with America, of timber felled for the purpose, and squared where it was necessary; it is, however, very strong, and could safely defy any attack except that of cannon.

BLOCK MACHINERY.—The immense demand of blocks for the royal navy, and the importance of having them both accurately and substantially made, induced the British government to patronise, in 1781, the undertaking of the late Mr. Walter Taylor of Southampton, who obtained a patent in that year for an improvement in the construction of the sheaves or pulleys; and the patentee enjoyed, for many years afterwards, the contract for supplying the royal navy with blocks. He manufactured them at wood-mills, on the river Itchen, near Southampton, by means of machinery which was wrought by water.

A Mr. Dunsterville of Plymouth also made improvements in the construction of blocks, to which he adapted machinery wrought by horses;

but he never prosecuted this business on any considerable scale.

In 1801 government found it expedient to erect new wood-mills, for various operations, in the dock-yard at Plymouth, and about this time happily, Mr. Brunell, an American artist of great mechanical skill, had just completed a working model of his block machinery, or a set of contrivances for the entire formation of a block from the inmost pin to the completion of the shell, and the putting the whole together. This model being exhibited at the admiralty, was referred to the inspection of general Sir Samuel Bentham, and, on his recommendation, the artist was immediately taken into the public service.

Mr. Brunell stated that he could effect by his machinery, 1. A greater uniformity of size and construction in all blocks contracted for in sets, or in which the same sorts were required, a circumstance which would increase the quantity of waste wood that might be employed, and increase the difficulty of counterfeiting them. The sheaves or shivers would be so mathematically true, and so exact to each other in their thicknesses and diameters, that every sheave of any particular size would equally fit any shell of the size for which it was intended; and the inconvenience to which ordinary blocks are liable from the friction of the ropes against one, or alternately both, of the sides of the mortices, was proposed to be removed by placing a sheet of metal on the upper part of the mortice, bent to the proper shape by an engine adapted for the purpose. 2. He could add strength where it was wanted, by making the head and bottom more substantial, and less liable to split; and 3. by leaving the wood between the two mortices thicker, he could admit a better bearing for the pins; all of which would be accomplished without requiring any dexterity on the part of the workman, but entirely by the operation of the machinery.

Mr. Brunell's calculation of the saving as to the cost of blocks to the Navy Board, compared with the former contract prices, was as follows:

	Blocks of 8 inch. s. d.	12 inch. s. d.	16 inch. s. d.	21 inch. s. d.
Brunell's prices . .	1 8 $\frac{3}{4}$	4 5	8 11 $\frac{1}{2}$	18 1 $\frac{3}{4}$
Contract prices . .	2 3 $\frac{1}{2}$	6 11 $\frac{1}{2}$	13 6	27 0 $\frac{3}{4}$
Saving in first cost .	0 6 $\frac{3}{4}$	2 6 $\frac{1}{2}$	4 6 $\frac{1}{2}$	8 11

The first and most material parts of this machinery were carried into operation at Plymouth in 1804. The able artist, however, kept adding to them other machines for making dead eyes, trucks, and all manner of block-maker's wares, besides circular and upright saws, lathes, engines for turning pins, rivetting, polishing, &c. till the year 1808, when he considered the whole system to be complete: and from that period it was in incessant occupation to the conclusion of the war, without any thing but the most ordinary and unavoidable repairs being requisite, and with very little attention from Mr. B. himself. They make all the blocks now used in the navy, which may be said to be of not less than 200 sorts and sizes, and consist of forty-four machines, which form

three sets; that is three blocks of different sizes may be proceeding in all their stages at the same time; though in some of these stages one machine may operate upon two, or even ten blocks at the same time. The whole was long set in motion by means of a capital steam-engine, of thirty-two horses' power, erected by Messrs. Boulton and Watt; and the only manual labor required was simply to supply the wood as it is wanted, and to remove the blocks from one part of the machinery to another, till perfectly finished: so that a common laborer could act in this business with very little instruction. To relieve the labor of this engine, a second was afterwards added.

It has been calculated that four men, with the machinery as it now stands, can complete the

shells of as many blocks as fifty men could do by the old method; and that six men will furnish as many sheaves as before required sixty; that these ten men, in displacing the labor of 110, can with ease finish in one year from 130,000 to 140,000 blocks of different sorts and sizes, the total value of which cannot be less than £50,000. This is stated to be the average number which was annually made from the year 1808 to the conclusion of the war; and found to be fully sufficient for supplying the wear and tear of blocks, not only in the naval, but also in the ordnance department.

During the late war 1000 sail of ships were at one time in commission; a ship of seventy-four guns requiring the following blocks for her equipment:

	No.
Single blocks from 5 to 26 inches . . .	622
Double ditto from 7 to 26 ditto . . .	130
Various other blocks, generally large, and several of them treble . . .	74
For each of the 74 guns, 6 blocks . . .	444
Total . . .	1270

Besides dead eyes, hearts, parrels, and
puttock-plates, all manufactured at
the mills } 160

Of all kinds in a 74 gun ship . . . 1430

it follows that probably a million of blocks were in wear, at that period, in these our wooden walls.

To the completion of this machinery, Mr. Brunell, as we have already intimated, gave his whole attention from the month of September 1802 to June 1808, receiving only a daily allowance of one guinea; when therefore it was in full operation, and ascertained to be so completely national an improvement, it very properly became a question in what manner the author of the invention should be further rewarded. Gen. Bentham suggested that the savings of one year on the contract prices would be a fair remuneration for the time, labor, and ingenuity, bestowed on these machines. It was no easy matter, however, to ascertain with precision what the actual savings amounted to. Mr. Brunell, by estimate made them £21,174.; Mr. Rogers, clerk to general Bentham, by estimate £12,742.; and the general finally . . . £16,621 0 0

Add six years' allowance at one }
guinea per day, about . . . } 2,400 0 0

For the working model } 1,000 0 0

And Mr. Brunell received about £20,000 G 0

The whole cost of the steam-engine, machinery, building, interest of money, &c. amounted, it has been said, to £53,000. the net compensation we see for profits, was about £18,000.; therefore the whole expense of the concern was completely cleared in four years; and the savings of £18,000 on one year's manufactured articles of the value of £50,000, are somewhat more than Brunell had originally calculated.

Every body who visits Portsmouth dock-yard makes a point of visiting the block-machinery; we therefore think it may be of use to attempt

to follow the process of making a block from the rough wood till the completion of it.

The first wing of the building is occupied by upright and circular saws, used for a variety of purposes not immediately connected with the making of blocks. The only operation connected with it here is that of converting the rough elm or ash timber (most commonly the former), into its proper scantling; that is to say, squaring it by the upright or straight-cutting saw, and then, by a circular saw, cross-cutting it into a certain number of parallelopipedons, whose lengths may bear the required proportion to the thickness of the log. Some of these are again cut longitudinally, according to the thickness that may be required for the shell of the block, especially those for single and double blocks, which of course are thinner than three and four-fold-blocks. This operation is performed by a ripping-saw; and the logs thus cut out are then taken into the second wing of the wood-mills, and here commences the process of making

I. THE SHELL, which is performed by the boring machine, or by means of a centre-bit applied to the middle of the shell, and which bores a hole for the centre pin of the sheave, while another bores one, two, or three holes at right angles to the direction of the first, to admit the first stroke of the chisel, and at the same time to serve for the head of the mortice or mortices, according as the intended block is to contain one, two, or three sheaves. When thus bored, the log is carried from hence to the morticing-machine, a most ingenious piece of mechanism. The block being firmly fixed on a movable carriage, the latter is so contrived as to be made to advance to the cutting chisels, which are fixed in a movable frame. Every time the frame with the chisels ascends, the block in its carriage advances a little, so as to present to the chisels a fresh surface of wood to be acted upon at each stroke of their descent; and this up and down motion is continued with such rapidity that the chisels make from 100 to 130 strokes in a minute, until the proper length has been morticed out; when, by a boy raising a handle, the machine is stopped precisely when the chisels stand at their greatest elevation. The chips cut are thrust out of the mortice by small pieces of steel attached to and projecting from the back of each chisel. They are each of them besides armed with two cutters, placed at right angles to the edge, called scribes, which mark out the width of the chip to be cut at each stroke. These scribes answer another purpose; their cutting is so true as to leave the two sides of the mortice so perfectly smooth as to require no further trimming or polishing. The next thing is to remove the block from the morticing-machine to a circular saw, in order to have the four corners taken off, by which operation it is reduced to an octagonal shape. This saw being fixed into a table or bench, the workman has nothing more to do than to slide each log along the surface of the table in the direction of the line marked out for the saw to cut it. A further operation is to place the block upon the shaping-machine. This is thought one of the most effective and striking contrivances in the whole machinery. It consists prin-

cipally of two equal and parallel circular wheels moving on the same axis, to which one of them is firmly fixed, but on which the other is made to slide; so that these two wheels may be placed at any given distance from each other, and blocks of any size admitted between their two rims or peripheries. For this purpose, both rims are divided into ten equal parts, for the reception of ten blocks, which are firmly and immovably fixed between the two wheels. When the double wheel with its ten attached blocks is put in motion, the outer surfaces of the blocks, or those which are farthest from the centre, strike with great violence against the edge of a chisel or gouge fixed in a movable frame, which, being made to slide in a curved direction in the line of the axis, cuts those outward faces of the blocks to their proper curvature, which can be altered in any way the workman pleases, by a contrivance attached to the cutting-tool. As soon as the tool has traversed the whole length of the block, or over the space contained between the two peripheries of the wheels, the machine is thrown out of the gear, and its prodigious velocity checked by a particular contrivance. The ten blocks are then by a single operation, and without removing them, each turned one-fourth part round, and another fourth part of their surface brought outwards, which being exposed to the cutting instrument, traversing in the same direction as before, have the same curvature given to these new surfaces. A third side is then turned outwards, and after that the fourth and last side, when the whole ten blocks are completely shaped, and ten other octagonal logs applied to the peripheries to undergo the same operation. The immense velocity with which these wheels revolve, and the great weight with which their peripheries are loaded, would make it dangerous to the workmen or bye-standers, if by the violence of the centrifugal force any of the blocks should happen to be thrown off from the rim of the wheels; to prevent the possibility of such an accident, an iron cage or guard is placed between the workman and the machine. The shell of the block being now morticed and completely shapen, the last operation is performed by the scoring-machine, which, by means of cutters, scoops out a groove round the longer diameter of the block, deepest at the ends, and vanishing to the central hole for the pin on which the sheave turns. The intention of this groove or channel is to receive the hempen or iron strap which surrounds the block. The only thing that now remains for completing the shell, is the removal of the little roughnesses from the surface, and giving to it a kind of polish, which is done by the hand.

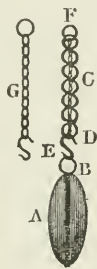
II. OF THE SHEAVES.—The wood of these, as we have said, is generally *lignum vitæ*; but iron or bell-metal have occasionally been substituted. A kind of porcelain was once introduced as a material, and answered well enough for some particular purposes, but was not be trusted in situations liable to sudden jerks and irregular motions of the block. In the navy sheaves are almost invariably of *lignum vitæ*; a few perhaps of ebony. The machinery employed for making this part of the block consists of a circular saw

by which the log is cut into plates of the thickness required. These plates are carried to a crown saw which bores the central hole, and at the same time reduces them to a perfect circle of the proper diameter. The sheave thus shaped is next brought to the coaking-machine, a piece of mechanism little inferior in ingenuity to the shaping-machine. The effect of the operation is very curious. A small cutter in traversing round the central hole of the sheave forms a groove for the insertion of the coak or bush, the shape of which is that of three semicircles not concentric with each other, nor with the sheave, but each having a centre equally distant from that of the sheave. The manner in which the cutter traverses from the first to the second, and from this to the third semicircle, after finishing each of them, never fails to attract the notice of visitors. So very exact and accurate is the groove cut for the reception of the metal coak, and so uniform in their shape and size are the latter cast in moulds, that they are invariably found to fit each other so nicely, and without preparation, that the tap of a hammer is sufficient to fix the coak in its place. The coaks are cast with small grooves or channels in the inside of their tubes, which serve to retain the oil or grease, without which it would soon ooze out, and the pin become dry. The sheave, with its coak thus fitted in, is now taken to the drilling-machine, which is kept in constant motion. In casting the coaks a mark is left in the centre of each of the three semicircles. This mark is applied by a boy to the point of the moving drill, which speedily goes through the two coaks and the intermediate wood of the sheave. A copper pin, cut from wire, of the proper length and thickness, is inserted into the holes thus drilled; and the sheave is then taken to the rivetting-hammer, which is something like a small tilt-hammer, and can easily be made to strike on the pin with greater or less velocity, according as the workman presses with more or less force on the treadle. The rivetting being performed, the next operation is that of broaching the central hole on which the sheave turns, by means of a steel drill or cutter. The last process consists in turning a groove for the rope to run in round the periphery of the sheave, and this operation is performed by a lathe, which is so constructed, that while this groove is cutting round the rim of the sheave, another part of the engine is turning smooth the two surfaces or faces of the sheave; and this lathe can be made to adapt itself to sheaves of different diameters. The shell and the sheave being now completed, there remains only the iron pin, which, passing through the two sides of the former, serves as the axis on which the latter turns within the mortice. These pins are also made, turned, and polished by engines for the purpose, so that, with the exception of strapping by rope or iron, the whole block is now completed.

The French, in the dock-yard of Brest, have long been in the practice of making blocks by horse-machinery; but they have not attempted any thing like a shaping-machine, or a substitute for it.

BLOCK, SPRING, an invention of Mr. Hopkinson of Philadelphia, to assist a vessel in sail-

ing. The principles of it are thus explained, in his paper published in the *Transactions of the American Philosophical Society*:—"The masts, yards, and rigging of a ship, receive the first impulses of the wind. All these are in some degree elastic. Every twisted rope is a spiral spring, and every spar capable of being a little bent. But let us suppose that the ropes were all composed of straight strands, that the masts and yards were inflexible, and the sails made of thin light wood; in such a case, I suppose that the vessel, in sailing by the wind, would make but little head-way, whatever the shape of her bottom might be, but would expend the force of the wind in heeling, and slipping to leeward. If this is true, her sailing must be considerably assisted by any means that shall increase the acting spring of her rigging. For this purpose I have contrived what I call a spring block, to be applied to such parts of the rigging as will admit of it with safety and convenience, and where its operations will be most advantageous; but particularly to the sheet-ropes, and if practicable to the dead eyes, in lieu of what are called the chains. In the diagram is a figure of this invention. A, is a block made in the usual manner, having a ring or eye, B, at one end. C, is a spiral spring, linked at one end to the hook, D E, and at the other to the ring F, which is to be annexed by a staple to the timber-head, or by some other means, to the place where it is to be applied. The spring C must be of well tempered steel, and proportioned in strength to the service it is to perform. Within the cavity or pipe, formed by the spiral spring, there must be a chain of suitable strength, called a check chain, represented separately at G, connected by links to the hook D E, and ring F. When the spring is not in action, this chain is slack; when the spiral spring is extended by the force of the wind, as far as it can be without danger of injury, the check-chain must then begin to bear, to prevent its further extension, and, if strong enough, will be an effectual security against failure.



BLOCK ISLAND, an island off the coast of Connecticut, in North America, and in the state of Rhode Island. It is forty-six miles in length, and its extreme breadth is thirty-eight miles. The southern part of it is in N. lat. $41^{\circ} 8'$.

Block (Daniel), a portrait painter, born at Stettin, in Pomerania, in 1580, who gave such early proofs of genius as induced his parents to place him as a disciple with Jacob Scherer. His extraordinary merit recommended him to the prince of Mecklenburg, who retained him in his service forty-four years. He died in 1611.

Block (Joanna Koerten), was a native of Amsterdam, born in 1650, and celebrated for her beautiful models in wax, her engravings on chrysal and glass, &c. and her copies of paintings in paper, executed with the scissors. For three pieces of this latter description she is said to have refused 1000 florins from the elector palatine; and a sun four times as large from the

empress of Germany, for a trophy similarly cut out. She died in 1715.

BLOCKADE, in the art of war, the blocking up a place, by posting troops at all the avenues leading to it, to keep supplies of men and provisions from getting into it; and by these means proposing to starve it out, without making any regular attacks. To raise a blockade, is to force the troops that keep the place blocked up from their posts.

BLOCK AND BLOCK, in sea language, is a phrase used, when on hauling any tackle, haul-yard, or the like, to which two blocks belong, the two meet and touch; so that they can haul no farther.

BLOCK-BATTERY, in the military art, denotes a wooden battery on four wheels, movable from place to place, whereby to fire *en barbe*, or over the parapet; sometimes also used in galleries and casements, where room is wanted.

BLOCK-BRUSH, in heraldry, a bunch of kneeholm, or bastard myrtle, formerly used by butchers to clean their blocks. It forms a part of the armorial bearings of the Butchers' Company.

BLOCK-CARRIAGE, in artillery, is a carriage used for the conveyance of mortars and their beds from one place to another.

BLOCKING, in middle age writers, a kind of burial, used for persons who died excommunicated.

BLOCKLAND (Anthony), history and portrait painter, was of a noble family, and born at Montfort in 1532. He was trained under Francis Florus, whose manner he followed. The airs of his heads were noble, and the profiles of his female figures approached near to the taste of Parmigiano. Several of his works are in excellent gusto, particularly a Venus, and the history of Joseph and his Brethren. He died in 1583.

BLOCKSBERG, or **BROKSBERG**, sometimes called the Brocken, Mons Bructerus, a mountain of Hanover, the highest point of the rugged district of Hartz. It is about 3600 feet above the level of the sea, and its summit presents a view of nearly 8000 square miles. Tradition, founded no doubt on the religious ceremonies of the Pagan Germans performed here in ancient times, makes this mountain the resort of all the witches of the north; and the spectre of the Brocken, though a phenomena perfectly natural, is calculated to strike the ignorant peasant with terror, and even to excite surprise in the philosopher. It is seen either in the morning or the evening, when the spectator at the top of the mountain happens to be placed in a right line between the sun and a cloud hovering in the atmosphere at a small distance, and is merely the image of the spectator reflected from the cloud, as from a mirror, but in a magnified and distorted shape.

BLOCKY, among jewellers, an epithet given to a diamond when its sides are too upright, by its table and collet being too large.

BLOEDIT, in mineralogy, a fibrous substance recently analysed by Jahn, and found to consist of sulphate of magnesia, and of soda and water.

BLOEMART (Abraham), painter of landscape, cattle, history, and portraits, was born at Goreum in 1564, according to Houbraken, but

according to Sandrart, in 1567, and lived mostly at Utrecht. In his youth he imitated the works of Floris, but his own genius proved his principal director. He formed a manner peculiar to himself, making nature his model, particularly in cattle, in which he excelled. He died in 1647. He left four sons all artists.

BLOEMART (Cornelius), the youngest son of the preceding, was born, in 1603, at Utrecht. The first principles of drawing and painting he learned from his father, but his inclination for engraving led him to apply wholly to that pursuit. He first studied under Crispin de Pass, and afterwards went to Rome, where he died in a very advanced age. His manner of engraving was not only quite original, but the source to which we may trace that style in which the greatest French masters excelled. His works are justly held in high estimation. They are very numerous, yet many of them difficult to be procured.

BLOEMEN (John Francis Van), surnamed by the Italians, Orizonti. See ORIZONTI.

BLOEMEN (Norbert Van), brother of the preceding, was a painter of portraits and conversations; but his merit was very inferior to his brother's, although he had a great deal of employment.

BLOEMEN (Peter Van), a celebrated painter, born at Antwerp, was also brother of John Francis, with whom he lived for several years at Rome. As soon as he found himself competently skilled in his art, he returned to his native city, where, in 1699, he was appointed director of the academy. His composition is rich, and his pictures are generally filled with a number of figures. His subjects are military, or Italian fairs, markets, and festivals.

BLOIS, an ancient city of France, in the department of the Loire and Cher, and ci-devant province of Blaisois, seated on the Loire, in one of the most agreeable districts of France. The castle is its great ornament. At first view, it seems to be two distinct buildings, but it is joined by a passage cut out of the rock. Joining this, on the west side, is the tower of Chateau Regnaud, which may be seen twenty miles distant. That part of the castle which was built by the duke of Orleans, in 1632, is a superb edifice, but unfinished. It was the birth place of Louis XII., and the scene where the duke of Guise and his brother the cardinal were assassinated, in 1587, by order of Henry III.; Catherine de Medicis, also died here in 1589. The court before it, where the church of St. Saviour is built, is very large, and was formerly used for tournaments. On all the gates of the city there was formerly an image of the Virgin Mary, who it was believed, freed the natives from the plague in 1631. The cathedral, the Jesuits' church and college, and the Episcopal palace are handsome buildings. But the bishopric, which was last filled by the celebrated Gregoire, has been suppressed. About three-fourths of a mile from the city, the water runs down the clefts of a rock into a large aqueduct, supposed to be of Roman construction, by which it is conveyed into a reservoir near the walls, and thence distributed by leaden pipes through the city. The trade of Blois is chiefly in wine and brandy; but the inhabitants also

make some serges and stuffs, and excellent watches, and hardware goods. It is situated thirty-six miles south-west of Orleans.

BLOMBERG (Barbara), a young lady of quality in Ratisbon, mistress of the emperor Charles V., and the mother of his natural son, the celebrated Don John of Austria.

BLOMEFIELD (Francis), an English clergyman and topographical writer, was the author of *Collectanea Cantabrigiensia*, or *Collections relating to Cambridge University, Town, and County, Norwich*, 1750, 4to; and of *An Essay towards a Topographical History of the County of Norfolk*; continued by the Rev. Charles Parkin, Fersfield, 1739-1775, 5 vols. folio; reprinted in 11 vols. 8vo, in 1805-1810. He was rector of Fersfield in Norfolk, and died in 1755 or 1756.

BLOND (Christopher Le), painter of portraits in miniature, and various subjects on paper, was born in 1670. He became first known at Rome in 1716, as painter to Count Martinetz, and, at the solicitation of Overbeke, went to Amsterdam, where he was employed to paint portraits for bracelets, snuff-boxes, &c. After spending some years in the Low Countries, he came to England, and commenced a new method of painting mezzotinto plates in colors. He had another merit with which few inventors begin, for he communicated his secret in a thin quarto, entitled *Coloritto*, or *The Harmony of Coloring in Painting reduced to Mechanical Practice, under easy Precepts and Infallible Rules*. Le Blond next set on foot a project for copying the cartoons of Raphael in tapestry, and made drawings from the pictures for that purpose. Houses were built and looms erected at the Mulberry Ground at Chelsea; but the expenses being too great, or the contributions not being equal to his expectations, the scheme was suddenly defeated, and Le Blond disappeared, to the no small dissatisfaction of those who were engaged with him. From hence he went to Paris, where he died in 1740, in an hospital. He was author of a treatise in French, on *Ideal Beauty*.

BLONDEL (David), a protestant minister, distinguished by his skill in history, was born at Chalons sur Marne, and admitted minister at a synod of the isle of France, in 1614. He was afterwards made an honorary professor with a suitable pension, by the national synod of Charenton. On the death of Vossius, he was chosen professor of history in Amsterdam, whither he went in 1650. He wrote, 1. *A Defence of the Reformed Churches of France*. 2. *A Work against the Decretal Epistles*. 3. *De Episcopis et Presbyteris*; 4. *Pseudo Isidorus*; 5. *A Treatise of the Sybils*, wherein he proves their oracles false; 6. *A Treatise concerning Pope Joan*, wherein he offended some of his protestant friends, by discrediting the story of the female pope; 7. *De Formula Regnante Christo*; 8. *Considerations Politiques et Religieuses*; on the war between the republics of England and Holland, and some other pieces. Bayle informs us that he had a singular way of studying: he lay on the floor, and had around him the necessary books for the work in hand. He died in 1655, aged sixty-four.

BLODEL (Francis), regius professor of mathematics and architecture at Paris, was employed in several negociations, arrived at the dignity of marshal de camp and counsellor of state, and was appointed to teach the dauphin mathematics, he was also made member of the academy of Sciences, and director of the Academy of Architecture. He died at Paris in 1686, aged sixty-eight. He wrote, 1. Notes on Savot's Architecture; 2. A Course of Mathematics; 3. Architecture Française, 2 vols. fol. 1772; 4. Cours d'Architecture Civile, 9 vols. 8vo. a work, the second part of which appeared in 1773, being left unfinished at his death; 5. A Treatise on Fortification, &c.

BLONDUS (Fluvius), an historian born at Froli, in Italy, in 1388, was secretary to Eugenius IV. and other popes. He wrote, 1. Romæ Instauratæ Lib. iii., dedicated to Eugene IV. 2. Romæ Triumphantis Lib. X, dedicated to Pius II. 3. Italiæ Illustratæ Lib. viii. 4. De Origine et Gestis Venetorum; besides three decades of a general history of Rome, the MS. of which is still preserved in the library of Modena.

BLOOD, v. & n.

BLOOD'Y, n. & adj.

BLOOD'INESS,

BLOOD'ILY,

BLOOD'LESS,

BLOOD'HOUND,

BLOOD'BOLTERED,

BLOOD'HOT,

BLOOD'LET, v.

BLOOD'LETTER,

BLOOD'GUILTINESS,

BLOOD'SHED,

BLOOD'SHOT,

BLOOD'SUCKER,

BLOOD'THIRSTY,

BLOOD'YFLUX,

BLOOD'YMINDED,

BLOOD'VESEL.

See BLEED. The red liquor that circulates in the veins and arteries. Progeny; family; kindred; descent; high extraction; the corporeal part of man. Sometimes applied to the temper of the mind; to that which is the life; and to every agent and instrument by which the life may be affected.

But flesh, with the life thereof, which is the blood thereof, shall you not eat. *Genesis.*

The voice of thy brother's blood crieth unto me from the ground. *Id.* iv. 10.

He washed his garments in wine, and his clothes in the blood of grapes. *Id.* xlix. 11.

When wicked men have slain a righteous person in his own house, upon his bed, shall I not therefore now require his blood at your hand? 2 *Samuel* iv. 11.

Flesh and blood hath not revealed it unto thee, but my Father which is in heaven. *Matt.* xvi. 17.

Of kinges blood of Perse is she descended, I say not that she hadde most fairenesae, But of hire shape she might not be amended.

Chaucer. Canterbury Tales.

He red, and measured many a sad verse, That horreur gan the virgin's hart to perse, And her faire locks up stared stiffe on end, Hearing him those same bloody lines reherse, And, all the while he red, she did extend Her sword high over him, if aught he did offend,

Spenser.

Full many mischiefs follow cruel wrath; Abhorred bloodshed, and tumultuous strife, Unmanly murder, and unthrifty seath. *Faerie Queene.*

And high advancing his blood-thirsty blade, Struck one of those deformed heads. *Id.*

And were there rightful cause of difference, Yet were it not better, fair it to accord, Than with bloodguiltiness to heap offence, And mortal vengeance join to crime abhorred? *Id.*
I am a gentleman of blood and breeding. *Shakspeare.*
It will have blood; they say, blood will have blood. *Id.*

As many and as well-born bloods as those Stand in his face, to contradict his claim. *Id.*

We will no more meet, no more see one another: But yet thou art my flesh, my blood, my daughter. *Id.*
The blood-boltered Banquo smiles upon me. *Id. Macbeth.*

I grant him bloody, Luxurious, avaricious, false, deceitful. *Id.*
Thou bloodier villain

Than terms can give thee out. *Id.*

God keep the prince from all the pack of you; A knot you are of damned blood-suckers. *Id. Richard III.*

Shall prove a deadly bloodshed but a jest, Exemplary by this heinous spectacle. *Id. King John.*

By continual martial exercises, without blood, she made them perfect in that bloody art. *Sidney.*

The nobility cried out upon him, that he was a bloodsucker, a murderer, and a parricide. *Hayward.*

Before you let blood, deliberate upon it, and well consider all circumstances belonging to it.

Burton. Anatomy of Melancholy.

So when the never-settled Scythian Removes his dwelling in an empty vain: When now the sun bath half his journey ran, His horse he bloods, and pricks a trembling vein; So from the wound quenches his thirsty heat: Yet worse; this fiend makes his own flesh his meat: Monster! the ravenous bear his kind will never eat.

Fletcher. Purple Island.

The news put divers young bloods into such a fury, as the ambassadors were not, without peril, to be outraged. *Bacon.*

When the faculties intellectual are in vigour, not drenched, or, as it were, bloodied by the affections.

Id. Apothegms.

War brings ruin where it should amend; But beauty, with a bloodless conquest, finds A welcome sovereignty in rudest minds. *Waller.*

A man, under the transports of a vehement rage, passes a different judgment upon murder and bloodshed, from what he does when his revenge is over.

South.

A crow lay battering upon a muscle, and could not, for his blood, break the shell to come at the fish.

L'Estrange.

The bloody fact Will be avenged; and the other's faith approved Lose no reward; though here thou see him die, Rolling in dust and gore. *Milton's Paradise Lost.*

Though they should wash their guilty hands In this warm life blood, which doth part From thine, and wound me to the heart, Yet could they not be clean: their stain Is dyed in such a purple grain. *Mareci.*

Will you, great sir, that glory blot, In cold blood, which you gained in hot? *Hudibras.*

Hear this, hear this, thou tribune of the people! Thou zealous, public bloodhound, hear and melt! *Dryden.*

This day the poet, bloodily inclined, Has made me die, full sore against my mind. *Id.*

Then all approach the slain with vast surprise, And scarce secure, reach out their spears afar, And blood their points, to prove their partnership in war. *Id. Fables.*

And, though the villain 'scape awhile, he feels
Slow vengeance, like a *bloodhound*, at his heels. *Swift*.
This mischief, in aneurism, proceedeth from the
ignorance of the *blood-letter*, who, not considering the
error committed in letting *blood*, binds up the arm
carelessly. *Wiseman*.

Cold, by retarding the motion of the blood, and
suppressing perspiration, produces giddiness, sleep-
iness, pains in the bowels, looseness, *bloody fluxes*.

Arbutnot on Air.
The chyle is not perfectly assimilated into blood
by its circulation through the lungs, as is known by
experiments in *blood-letting*. *Id. On Aliments*.

And that the winds their bellowing throats would
try,
When reddening clouds reflect his *bloodshot* eye.

Garth.
He was *blooded* up to his elbows by a couple of
Moors, whom he butchered with his own imperial
hands. *Addison*.

The skins of the forehead were extremely tough
and thick, and had not in them any *blood-vessel*, that
we were able to discover. *Id. Spectator*.

A good piece of bread first to be eaten, will gain
time to warm the beer *blood-hot*, which then he may
drink safely. *Locke*.

It will manifest itself by its *bloodiness*; yet some-
times the skull is so thin as not to admit of any.

Sharp's Surgery.
Did not the painted kings of India greet
Our queen, and lay their sceptres at her feet?
Chiefs, who full bowls of hostile *blood* had quaffed,
Famed for the javelin and envenomed shaft,
Whose haughty brows made savages adore,
Nor bowed to less than stars or sun before. *Tickell*.

The heart contracts four thousand times in one
hour; from which it follows that there pass through
the heart every hour four thousand ounces, or three
hundred and fifty pounds of *blood*. Now the whole
mass of *blood* is said to be about twenty-five pounds;
so that a quantity of *blood*, equal to the whole mass
of *blood*, passes through the heart fourteen times in
one hour; which is about once every four minutes.

Paley.
BLOOD; the fluid contained in the arteries and
veins. While circulating in these vessels it ap-
pears homogeneous and uniform, but when taken
from these it very shortly separates into distinct
parts. In the first instance, a vapor exhales
from extravasated blood which has a peculiar
smell; but this exhalation, when condensed into
a liquid, differs very little from mere water.
Soon a film appears on the surface of the blood,
which is preparatory to the separation of the mass
into a firm red substance called the *cruur*, and a
yellowish liquid or serum. The first is resolvable
again into two parts, viz. the red globules
and the fibrin, or what has been called the coa-
gulable lymph; this coagulable lymph appearing
on the surface of the crassamentum, in greater
or less quantity, both, as the blood may have
been more or less tardy in separation, and as it
may contain more or less of fibrin; the properties
of this lymph differing very little from those of
the fibrin, which is obtained from muscular fibre;
and which, indeed, is regarded as the essence of
muscular fibre. Fibrin, then, exists in the
largest proportions under conditions of high
health; and, in individuals of different species,
the quantity of this ingredient has been said to
bear a relation to the ferocity and strength of
the animal.

The red globules of the blood were first
accurately examined by Mr. Hewson; it is a
curious fact respecting these, that although they
appear readily to dissolve in water, and thus im-
part their color to the solvent, they still retain,
under this solution, their globular shape, and
thus remain colorless globules. The diameter of
these globules has been stated so low as from
1-4000th to 1-6000th part of an inch. According
to some they become elliptical in order to accom-
modate themselves to the decreasing diameter of
the vessels they have to pass through. Prevost
and Dumas state that the elliptical form of the
globules is common to birds, and to the cold
blooded animals; while in the mammalia they
are always spherical. These last physiologists
remark, that the size of the globule varies from
 $\frac{1}{3750}$ of an English inch in man, the dog, pig, &c.
to $\frac{1}{7500}$ in the she-goat.

There has been much controversy respecting
the principle upon which the color of the blood
depends. Berzelius and others have ascribed it
to the oxide of iron entering into its composition;
while Dr. Wills, and subsequently Mr. Brande
and Vauquelin, have attributed it, and apparently
with much more correctness, to an animal sub-
stance of a peculiar nature. Mr. B., when inves-
tigating the coloring matter of the blood distin-
ctly from its crassamentum, did not find it to
contain a greater proportion of iron than the
other principles; the theory, then, says a modern
chemist, which accounts for the red color of the
fluid in question, by the presence of iron, may be
considered as completely set aside; and the
same chemist, Dr. Henry, gives, from Vauquelin,
the following method of obtaining, in a separate
form, this coloring matter.

Let the coagulum of blood, well drained upon
a hair-sieve, be digested in four times its weight
of sulphuric acid, diluted with a double propor-
tion of water, at the temperature of 160° of
Fahrenheit for five or six hours. Filter the
liquor while yet hot, and wash the residuum with
a quantity of hot water, equal in weight to the
acid which has been employed. Concentrate
the liquor to half its bulk; then add pure ammo-
nia till there remain only a slight excess of acid.
After having agitated the liquor allow it to stand,
and a purple sediment will be deposited. This
sediment is to be washed with distilled water till
the washings cease to precipitate the nitrate of
baryte. It may then be drained on filtering
paper, and dried at a very gentle heat.

The serum or watery portion of the blood is
differently stated, as to its composition, by dif-
ferent chemists; and it is probable that much
variation actually takes place according to the
different circumstances of the individual from
whom it has been taken. Its specific gravity is
about 1.030. When exposed to heat it is con-
verted into coagulated albumen, from which, by
pressure, a small quantity of a saline liquor may
be made to ooze, which is distinctly called the
serosity of the blood. This last consists, accord-
ing to Berzelius, of water, of soda holding albu-
men in solution, of muriates of soda and potash,
of acetate of soda, and an animal matter always
accompanying the last ingredient, forming, toge-
ther, the muco-extractive matter of Marcet. Dr.

Bostock and Marcet could discover no albumen in the serosity of the blood, but only the mucro-extractive or uncoagulable matter just mentioned.

Serum, evaporated by a heat below that which coagulates it, yields a semi-transparent substance resembling amber, the insoluble part of which is albuminous; and it is important to observe that the mineral acids, in their action upon serum, produce insoluble compounds, which resemble fibrin treated in the same way. Hence it has been inferred, that albumen and fibrin are nearly one and the same principle. Upon the whole, we may, perhaps, receive the following analysis of Berzelius as presenting a pretty correct account of the contents of the serum generally; it differs very little from one given by Dr. Marcet.

Water	905.0
Albumen	80.0
Muriate of potash and soda	6.0
Lactate of soda with animal matter (the mucro-extractive matter of Marcet).	4.0
Soda and phosphate of soda with do.	4.1
Loss	0.9
	<hr/>
	1000.0

While the solid part consists of the coloring matter and fibrin, and albumen in the proportions, according to Berzelius, of sixty-four of the former to thirty-six of the latter in 100. The coloring matter yielding by incineration the following residue:—

Oxide of iron	50.0
Sulphosphate of ditto	7.5
Phosphate of lime with magnesia.	6.0
Lime	20.0
Carbonic acid and loss	16.5
	<hr/>
	100.0

It is thought by Berzelius that the coloring matter rather contains the bases of these substances than the substances themselves; and the same products may be obtained, he says, by incineration from the mere albuminous portion of the crassamentum, with the exception of iron; a result which still leads this last chemist to infer that a ferruginous principle has to do with the impartation of color; an effect which, according to him, 'though not depending on the presence merely of an oxide of iron, may be produced by a compound of which that oxide is an essential part.'

It has been well observed by Magendie, in his recently published *Elements of Physiology*, that 'the respective relations in the quantity of serum and cruro, coloring matter and fibrin, are variable according to an infinity of circumstances;' and this variability ought ever to be taken into account when experiments are instituted either upon the whole mass of blood or on its separate parts.

The fluidity of the blood while circulating, and its coagulation when separated from its appropriate vessels, have constituted a subject of physiological speculation and enquiry. It was natural to suppose that the constant motion

which circulation implies caused this homogeneous and fluid condition, but that this is not at any rate a full explanation of the fact is proved by isolating a portion of the vascular system from the general mass; by thus causing the blood in the vessel so isolated, to be at rest; which, notwithstanding this quietude, maintains for a length of time the character and appearance of circulating fluid; while, on the other hand, coagulation takes place in blood separated from its vessels, even though the mass be agitated during the process of extravasation.

The phenomenon, then, is to be explained by, or rather referred to, vital action, and not to motion abstractedly; we say referred to, inasmuch as the announcement of a law must always be regarded as a different thing from the physical explanation of a fact. John Hunter overlooked this distinction, and thus fell into error when he assumed the vitality of the blood, and talked of the stimulus of necessity: all his positions and reasonings on this head, however ingenious and plausible, being reducible to the truism that the blood coagulates because it must coagulate.

In a fluid of such importance as the blood, it will readily be inferred that many material changes are constantly going on, both of a physical and chemical kind, so as to modify constitutional temperaments, regulate the condition of health, and influence morbid affections; these changes, however, have not hitherto been ascertained with any thing like a precision sufficient to authorise inferences as to the connexion of such and such variations with such and such maladies. Indeed the seemingly innocuous nature of the blood, while the frame is under the influence of the most noxious poisons, is a striking fact in the animal economy. It has, for example, been ascertained that the flesh, and, *à fortiori*, the blood, of an animal that is laboring under hydrophobia, and which animal, by its saliva, is capable of inoculating another with the specific disease, may be eaten with impunity.

Again, puncture the veins of an individual who is the subject of small-pox, take blood from that subject and mix it with the blood of another, you will not by this process impart the sickness; an impartation which every one knows to be effected with facility by a very minute portion of the matter taken from the pustules that characterise the disorder.

In conformity with the same principle, it is found that the blood of a patient, laboring under diabetes, does not yield the saccharine principle to the chemical experimenter, notwithstanding that the very essence of this distemper consists in the copious separation of sugar from the blood by the action of the kidneys. But, for further information on these interesting points, and for the modifications of which the facts are susceptible, we must refer the reader to the several articles of *MEDICINE, PHYSIOLOGY, PATHOLOGY, and SECRETION*. Under the words *RESPIRATION* and *PERSPIRATION* we shall likewise have to consider the color and temperature of the blood, in their connexion with exterior and interior circumstance.

We shall conclude the present article by remarking that there have been very different estimates

formed with respect to the average quantity of blood contained in the body. Some have calculated it at 100 pounds, while others have rated it so low as thirty. From this last to forty, or a little more, the average may, perhaps, be correctly taken of the quantity of blood contained in the human system at the adult period. Man, it is said, has a considerably larger proportion of blood, relatively to his size and weight, than the inferior animals.

BLOOD, IN DIET. As a species of food, it has been disputed whether blood really affords any nourishment or not. The best judges, however, are now generally agreed that it is nutritious; and though out of the body, like the white of an egg, it is very insoluble, yet, like that too in the body it is commonly of easy digestion. It is, however, highly alkaliescent in hot climates; on which account alone the prohibition of it to the Israelites was very proper. Even in this country, when blood was used as food in great quantity, the scurvy was more frequent than at other times. In some countries we are told of barbarians who were accustomed to intoxicate themselves by drinking the warm blood of animals.

The eating of blood was prohibited to Noah, Gen. ix. 3, 4, and to the Jews, Lev. xvii. 10—14. In the latter instance principally, it has been said, with a view to its use in sacrifices, or as a token of respect to the altar, at which the blood of every victim was presented before God. Indeed this is expressly stated to be the reason on one occasion. The prohibition was repeated by the apostles at the council of Jerusalem, Acts xv. and confirmed and defended, we are told, by all the fathers, except St. Augustin; the universal practice both of the eastern and western churches being to avoid the eating of it till his time. In many churches, even of the west, this was the case much longer. The question is, whether the apostolic precept to abstain from blood, was only a temporary deference to the weakness of the Jewish converts, or a perpetual precept founded on moral principles, and consequently still obligatory? The former opinion is that of the majority of modern critics, though the advocates for the latter urge, that blood was prohibited with the original grant of animal food to man; that the prohibition is joined with that of fornication, which is an immorality; and that nothing like an express repeal of the apostolic decision can be found.

Two respectable controversialists upon another subject, the Rev. R. Hall of Bristol, and Rev. Jos. Kinghorn of Norwich, have lately taken the opposite sides of this question also. Mr. Hall says of the insinuation respecting abstaining from blood: 'I have not the smallest doubt that it is of perpetual force, however little it may be regarded in modern practice. The precept was invariably observed by the faithful from the time of Noah; it resulted from the solemn and unanimous decision of the apostles, and is of more ancient origin than any other Christian institute.' Reply to the Rev. Jos. Kinghorn, in vindication of the practice of Free Communion, pp. 50, 51. Mr. Kinghorn quotes the learned Spencer as expressing his opinion that the Gentile Christians

are required to abstain from pollutions of idols, and from fornication, and from things strangled, and from blood, because they were the causes, the attendants, and the signs of idolatry.' He considers the Noahic precept, after Geddes and other Hebrew critics, as intended to forbid 'eating the flesh with the blood of the animal while alive,' or before the creature was properly slain. He then alleges the express permission of the law (Deut. xiv. 21.) for Gentiles to eat of anything that died of itself, i. e. with the blood in it, as a proof that there could be no immorality in the practice. It would certainly seem clear, according to this, that the Ethiopian eunuch, or any other Gentile Christian, might have innocently eaten of such food, if so disposed, before the decision of the apostolic council.

BLOOD, USES OF, IN RELIGION. The blood of victims was anciently the portion of the gods; and accordingly was poured or sprinkled on the altar in oblation to them. The priests made another use of blood, viz. for divination. The streaming of blood from the earth, fire, and the like, was held a prodigy or omen of evil. The Roman priests were not unacquainted with the use of blood in miracles; they had the fluxes of blood from images, ready to serve a turn; witness that said to have streamed from the statue of Minerva at Modena, before the battle at that place. But we know not whether in this their successors have not gone beyond them. How many relations in ecclesiastical writers of Madonas, crucifixes, and wafers, bleeding! The liquefaction of the blood of St. Januarius at Naples, repeated annually for so many ages, seems to transcend, by far all the frauds of the Grecian or Roman priesthood. But the chemists at last divulged the secret; and M. Neuman at Berlin, performed the miracle of the liquefaction of dried blood, with all the circumstances of the Neapolitan miracle. We shall not occupy our pages with the profuse fables of the Franciscans and Dominicans, respecting our Saviour's blood. But Matt. Paris assures us, that Henry II. summoned his nobles and prelates to celebrate the feast of St. Edward in St. Peter's church, chiefly pro veneratione sancti sanguinis Christi nuper adepti, 'in veneration of the holy blood of Christ lately acquired.' And various other British monasteries pretended to be possessed of this profitable relic.

BLOOD, in farriery, denotes a distemper in the back of a horse, which makes him in going draw his head aside, or after him; the cure is by slitting the length of two joints under the tail, and thus letting the beast bleed plentifully.

BLOOD, in law, is distinguished, as either half, or whole blood. 1. Half blood is applied to persons descended from one common ancestor, either on the father's or mother's side, by two different marriages. 2. Whole blood is a person descended from the same couple of ancestors.

BLOOD (Thomas), commonly called colonel Blood: was a disbanded officer of Oliver Cromwell's, who first distinguished himself by engaging in a conspiracy to surprise the castle of Dublin; which was defeated by the vigilance of the duke of Ormond. Escaping to England, he meditated revenge against that nobleman, and

actually seized him one night in his coach in St. James's-street, and bound him on horseback behind one of his associates, resolving to hang him at Tyburn, with a paper pinned to his breast: but when they reached the fields, the duke threw himself and the assassin, to whom he was fastened, to the ground; and while they were struggling, he was rescued by his servants. The authors of this attempt were not, however, then discovered. After living a considerable time among the malcontents in Ireland, and afterwards in Holland, he returned to England, with recommendations to the republican party; went to Scotland, where he contributed much to the breaking out of the insurrection; and was present in the action of Pentland Hills on the 27th of November, 1666. He returned to England, where he rescued his friend Captain Mason from a party of soldiers, who were conducting him to his trial. In 1671 Blood formed a design of carrying off the crown and regalia from the tower; and was very near succeeding. He had bound and wounded Edwards, the keeper of the jewel office, and had actually left the tower with his prey; but was overtaken and seized, with some of his associates. When questioned, he frankly avowed the enterprize; but refused to discover his accomplices. 'The fear of death, he said, should never engage him either to deny a guilt, or betray a friend.' These extraordinary circumstances made him the general subject of conversation; and King Charles II. was moved with an idle curiosity to see and speak with a person so noted for his courage and his crimes. Blood wanted not address to improve this opportunity of obtaining a pardon. He told the king that he had been engaged, with others, in a design to kill him with a carabine above Battersea, where his majesty often went to bathe; but that when he had taken his stand among the reeds for that purpose, he found his heart checked with an awe of majesty; and he not only relented himself, but diverted his associates from their purpose. That he had long ago brought himself to an entire indifference about life, which he now considered lost; but that his associates had bound themselves by the strictest oaths to revenge the death of any of their confederacy; and that no precaution nor power could secure any one from the effects of their resolutions. Whether these considerations excited fear or admiration in the king, Blood secured his object—a pardon; and Charles is said to have carried his kindness still farther, and to have granted him an estate of £500 a year in Ireland. He even encouraged his attendance about his person, and while old Edwards, who had bravely ventured his life, and had been wounded in defending the crown and regalia, was forgotten and neglected, this man, who deserved to be hanged, became a kind of favorite. Blood enjoyed his pension about ten years, when being charged with fixing a scandalous imputation on the duke of Buckingham, he was again thrown into prison; yet, though the damages were laid at £10,000, this adventurer found bail. He died, however, soon after, on the 24th of August, 1680.

BLOOD, FIELD OF. See ACELDAMA.

BLOOD-HOUND, in zoology, the canis sagax of

Linnaeus (see CANIS), le chien courant of Buffon, the slow hound of the Scots. The hound or dog, with long, smooth, and pendulous ears. •It was a dog of great use, and in high esteem with our ancestors: and was employed to recover any game that had escaped wounded from the hunter, or been killed and stolen out of the forest. It was remarkable for the acuteness of its smell, tracing the lost beast by the blood it had spilt; whence the name is derived. This species could, with the utmost certainty, discover the thief by following his footsteps, let the distance of his flight be ever so great, and through the most secret and thickest coverts: nor would it cease its pursuit till it had taken the felon. They were likewise used by Wallace and Bruce during the civil wars. The poetical historians of the two heroes frequently relate very curious passages on this subject; of the service these dogs were to their masters, and the escapes they had from those of the enemy. The blood-hound was in great request on the confines of England and Scotland; where the borderers were continually preying on the herds and flocks of their neighbours. The true kind was large, strong, muscular, broad-breasted, of a stern countenance, of a deep tan-color, and generally marked with a black spot above each eye.

BLOOD-LETTING, the operation of bleeding, or letting blood. Under this term is comprehended every artificial discharge of blood made with a view to cure or prevent a disease. Blood-letting is divided into general and topical. As examples of the former, venæsection and arteriotomy may be mentioned; and of the latter, the application of leeches, cupping-glasses, and scarification.

BLOOD-RED HEAT, the last degree of heat given by smiths to iron in the forge.

BLOOD-RUNNING ITCH, in farriery, a disease in a horse, proceeding from an inflammation of the blood by over heating, hard riding, or other severe labor; which, getting between the skin and flesh, makes the beast rub and bite himself; and, if not cured, sometimes turns to a highly infectious mange.

BLOOD, SALAMANDER'S, the redness remaining in the receiver, after distilling the spirit of nitre.

BLOOD, SATYRIUM, a ruddy liquor produced from the roots of satyrium, baked with bread, and liquefied, as it were, into blood, by a long digestion.

BLOOD-SHOT. See OPHTHALMIA.

BLOOD-SNAKE, the English name of the hæmorrhus.

BLOOD-SPAVIN. See FARRIERY.

BLOOD, SPITTING OF, or hæmoptoe. See MEDICINE.

BLOOD-STONE. See HELIOTROPE.

BLOOD-VESSELS. See ANATOMY.

BLOODY FLUX. See MEDICINE.

BLOOM, *v. & n.* } Germ. *blume*; Dutch, *bloem*; Goth. *bloma*; Ang., *bloom'ing*, }
Sax. *blosm*, *blosmian*

Skinner thinks from *blæn*, to swell; to break out, as the flower which precedes the fruit. Wachter, from *blazen*, to blow; to breathe out odors. Somner gives *blotsmian*, to germinate;

to flourish; that is to bud; to blossom; to bear flowers. *Ency. Met.* Bloom carries with it the idea of freshness as well as fragrance; whatever has the bloom upon it, is in its loveliest, freshest state; pure; untouched; untainted: thus it is applied, figuratively, to youth in its vigor; to beauty in its prime; to intellectual and moral excellencies in their state of unsophisticated maturity.

The rod of Aaron for the house of Levi was budded, and brought forth buds, and bloomed blossoms, and yielded almonds. *Numbers xvii. 8.*

Rites and customs, now superstitious, when the strength of virtuous, devout, or charitable affection bloomed them, no man could justly have condemned as evil. *Hooker.*

It is a common experience, that if you do not pull off some blossoms the first time a tree bloometh, it will blossom itself to death. *Bacon's Nat. Hist.*

How nature paints her colours, how the bee Sits on her bloom, extracting liquid sweet. *Milton.*

O nightingale! that on yon bloomy spray Warblest at eve, when all the woods are still *Id.*

Beauty, like the fair Hesperian tree Laden with blooming gold, had need the guard Of dragon-watch with unenchanted eye, To save her blossoms and defend her fruit From the rash hand of bold incontinence. *Id. Comus.*

Departing spring could only stay to shed Her bloomy beauties on the genial bed, But left the manly summer in her stead. *Dryden.*

Were I no queen, did you my beauty weigh, My youth in bloom, your age in its decay. *Id. Aurengzebe.*

The bloom of opening flowers, unsullied beauty, Softness, and sweetest innocence she wears And looks like nature in the world's first spring. *Rowe's Tamerlaine.*

Oh she is all perfection! All that the blooming earth can send forth fair; All that the gaudy heavens could drop down glorious. *Lee's Theodosius.*

Hear how the birds, on every bloomy spray, With joyous musick wake the dawning day. *Pope.*

Pleasures are like poppies spread, You seize the flower, its bloom is shed. *Burns.*

One spot exists—which ever blooms, Even in that deadly grove. *Byron. Bride of Abydos.*

Bloom, in the iron-works, has yet to undergo many hammerings before it become iron fit for the smith's use, and be made what they call the ancony. See ANCONY.

Bloom, HALF, a round mass of metal, which comes out of the finery of an iron work.

BLOOMFIELD (Robert), an English poet, was born in 1766, at Honington, near Bury St. Edmund's, in Suffolk, where his father was a tailor; and his mother, who became a widow shortly after our poet's birth, kept a village school. Being taught to read by her, at the age of eleven he was taken into the employ of his uncle, a farmer, and engaged for a year or two in the labors of husbandry; after this, the delicacy of his constitution induced his elder brother, who was a shoemaker in London, to bring him to the metropolis, and teach him that trade, at which he worked for several years. Being fond of reading books of amusement, and especially poetry, he at an early age began to exercise his

talents in making verses, some of which he sent to the newspapers. At length he produced a poem of considerable extent, entitled, 'The Farmer's Boy,' describing the occupations of the husbandman through the four seasons of the year. This piece was shown in manuscript to booksellers and others, from whom it attracted little attention, till it fell into the hands of Capel Loft, Esq., of Troston, near Bury, who, on perusal, was so much struck with its beauties, that he immediately corrected and prepared it for the press, and shortly after published it with notes, and a prefatory account of the author, from which the preceding facts are derived. Both the poem and the poet now became the objects of general curiosity and applause. His book passed through many editions in a short time, and Messrs. Vernon and Hood, by whom it was published, acted with considerable liberality to the author. The duke of Grafton became his patron, and bestowed on him a small annuity, and appointed him under-sealer in the seal-office; but this situation he was forced to resign on account of ill health. He then again worked at his trade as a shoemaker, and employed himself in constructing Æolian harps. He also published *Wild Flowers*, and two or three other volumes of poetry, which must have added to his emoluments; but engaging in the book-trade, he became a bankrupt; and to add to his difficulties, in the latter part of his life, he was afflicted with violent head-aches, and became nearly blind. At length he left the metropolis, and went to Shefford in Bedfordshire, for the benefit of his health. He, however, was gradually reduced to such a state of nervous irritability, that apprehensions were entertained of his becoming insane. His death took place August 19th 1823. His last production, *Hazlewood-Hall*, a Village Drama, appeared shortly before his decease. But his literary reputation will always rest principally on his first work, which, under the disadvantageous circumstances of its composition, must be considered an extraordinary performance.

BLOOT (Peter), a Flemish painter, whose works are seldom seen in Britain: nor are they easily purchased abroad, being highly esteemed and carefully preserved in private collections. His subjects were boors drinking, feasting, dancing, &c. He died in 1667.

BLORE, *v. n.* from blow. Act of blowing; blast: an expressive word, but not used.

Out rushed, with an unmeasured roar, Those two winds, tumbling clouds in heaps; ushers to either's blow. *Chapman's Iliad.*

BLOSSOM, *v. & n.* } See BLOOM. To put
BLOS'SOMED, } forth flowers; to have
BLOS'SOMY. } the hue, the sweetness, the freshness of flowers newly blown. We generally call those flowers blossoms, which are not much regarded in themselves, but as a token of some following production.

Although the fig-tree shall not blossom, neither shall fruit be in the vines, yet will I rejoice in the Lord. *Habb. iii. 17.*

Lo how the trees grenyth that naked wer, and nothing Bare this month afore; but their sommer clothing

Lo how Nature maketh for them everichone !
And as many as ther be he forgetteth none !
Lo how the season of the yere and Averell shoures,
Doeth the bushin burgyn out blossoms and floures.

Chaucer. Canterbury Tales.

Long worke it were
Here to account the endlesse progeny
Of all the weeds that bud and blossome there.

Spenser.

The blossome which my braunch of youth did beare
With breathed sighes is blown away and blasted. *Id.*

This is the state of man : to-day he puts forth
The tender leaves of hope ; to-morrow blossoms,
And bears his blushing honours thick upon him.

Shakespeare. Henry VIII.

Cold news for me :
Thus are my blossoms blasted in the bud,
And caterpillars eat my leaves away.

Id. Henry IV.

The pulling off many of the blossoms of a fruit tree,
doth make the fruit fairer. *Bacon's Natural History.*

To his green years your censure you would suit,
Not blast the blossom, but expect the fruit. *Dryden.*

It called Narcissa long before her hour ;
It called her, tender soul, by break of bliss,
From the first blossom,—from the buds of joy ;
Those few our noxious fate unblasted leaves
In this inclement cline of human life. *Young.*

BLOT, *v. & n.* } *Fr. blottir* ; *Ang.-Sax. be-*
BLOT'ING. } *hlidan*. Be-hlot is the regu-
lar past tense and past participle ; hence our
English blot, which is literally to cover. Tooke
observes, and the Metropolitana after him, that
'a blot upon any thing extends just so far as
that thing is covered, and no farther' To render
illegible by covering. It is figuratively used to
express any mark of disgrace, any stigma that
may be fixed upon a particular action, or a ge-
neral character.

A lie is a foul blot in a man ; yet it is continually
in the mouth of the untaught. *Ecl. xx. 24.*

And sad repentance used to embay
His body in salt water smarting sore,
The filthy blotches of sin to wash away. *Spenser.*

Amongst all knights he blotted was with blame,
And counted but a recreant knight with endless
shame. *Id.*

What foul disgrace is this
To so faire ladie, as ye seeme in sight,
To blot your beautie, that unblemisht is,
With so foule blame as breach of faith once plight,
Or change of love for any world's delight. *Id.*

Make known,
It is no vicious blot, murder, or foulness,
That hath deprived me. *Shakespeare. King Lear.*

You that are king
Have caused him, by new act of parliament,
To blot out me, and put his own son in.

Id. Henry VI.

Unknit that threatening unkind brow ;
It blots thy beauty, as frost bites the meads,
Confounds thy fame. *Id. Taming of the Shrew.*

I remember, the players have often mentioned it
as an honour to Shakespeare, that in his writing
(whatsoever he penned) he never blotted a line. My
answer hath been, would he had blotted a thousand.

Ben Jonson.

Powers that erst in heaven sat on thrones ;
Though of their names in heavenly records now
Be no memorial, blotted out and rased
By their rebellion from the books of life. *Milton.*

He sung how earth blots the moon's gilded wane,
Whilst foolish men beat sounding brass in vain.

Cowley.

Let flames on your unlucky papers prey,
Your wars, your loves, your praises, be forgot,
And make of all an universal blot.

Dryden. Juvenal.

O Bertram, oh no more my foe, but brother !
One act like this blots out a thousand crimes.

Dryden.

My guilt thy growing virtues did defame ;
My blackness blotted thy unblemished name.

Id. Æneid.

These simple ideas, offered to the mind, the under-
standing can no more refuse, nor alter, nor blot out,
than a mirror can refuse, alter, or obliterate, the
images which the objects produce. *Locke.*

For mercy's sake restrain thy hand,
Blot not thy innocence with guiltless blood.

Rowe.

For thee I would my dearest friend resign,
And from my heart blot every name but thine. *Id.*
Even copious Dryden wanted, or forgot,
The last and greatest art, the art to blot. *Pope.*

A man of the most understanding will find it im-
possible to make the best use of it, while he writes in
constraint, perpetually softening, correcting, or blotting
out expressions. *Swift.*

A disappointed hope, a blot of honour, a stain of
conscience, an unfortunate love, will serve the turn.

Temple.

BLOTCH, *v. & n.* From the *Ang.-Sax.*
blodig, that is, bloody ; for instance, a bloody
tumor : or from *blase*, a blaze, which it resem-
bles in its fiery appearance, and its burning heat.
Skinner, as quoted by the *Metropolitana*.

The one might be employed in healing those
blotches and tumours which break out in the body,
while the other is sweetening the blood and rectifying
the constitution. *Spectator.*

Spots and blotches, of several colours and figures,
straggling over the body ; some are red, others yellow,
or black. *Harvey.*

To BLOTE, *v. a.* To smoke, or dry by the
smoke ; as bloted herrings, or red herrings.

BLOTED CHINA-WARE, a sort of china,
loaded with color in an irregular manner. This
pleases some, but it is a defective sort of ware,
the large blotches of colors having been only
laid on to cover the blemishes of the first baking.

BLOTELING, or BLOOTELING (*Abraham*), a
designer and engraver of Amsterdam, flourished
about 1670. From the style of his etchings,
which have great merit, he is supposed to have
frequented the school of the *Visschers*.

BLOUNT (Sir Henry), an English writer,
born at Tittenhanger, in Hertfordshire, in 1602.
After a regular education, he set out on his tra-
vels in 1634 ; and, becoming acquainted with a
janissary at Venice, accompanied him into the
Turkish dominions. Having been abroad two
years, he returned and published a relation of his
travels in the Levant, which went through se-
veral editions. He was knighted by Charles I.
and was at the battle of Edge-hill ; but after the
king's death was employed by the parliament
and by Cromwell. After the Restoration he
was high sheriff of Hertfordshire. He published,
1. An account of his Travels. 2. Six Comedies
written by John Lilly, under the title of Court
Comedies. 3. The Exchange Walk, a satire ;

and 4. An Epistle in praise of Tobacco He died October 9th 1682.

BLOUNT (Sir Thomas Pope), Bart., eldest son of Sir Henry, was born at Upper Holloway, in Middlesex, September 12th 1649. He distinguished himself as a lover of liberty, a sincere friend to his country, and a true patron of learning. He was made a baronet by Charles II., in whose reign he represented St Alban's in two parliaments, and was knight of the shire in three parliaments after the Revolution. He wrote in Latin, 1. A Critique on the most celebrated Writers. 2. Essays on several subjects. 3. A Natural History, extracted out of the best modern writers. He died June 30th 1697, in the forty-eighth year of his age.

BLOUNT (Charles), younger brother of Sir Thomas, wrote *Anima Mundi*; or, An Historical Narration of the Opinions of the Ancients, concerning Man's Soul after this Life, according to unenlightened Nature, which gave great offence, and was complained of to the bishop of London. But the work which rendered him most known, was, his translation of Philostratus's *Life of Apollonius Tyanæus*, published in 1680; which was soon suppressed. He published another work of the same kind the same year, called *Great is Diana of the Ephesians*, &c. in which, under color of exposing superstition, he struck at revelation. In 1684 he printed An Introduction to Polite Literature. In the warmth of his zeal for the Revolution, he wrote a pamphlet to prove king William and queen Mary conquerors; which was condemned to be burnt by both houses of parliament. The close of his life was very unhappy. After the death of his wife, he became enamoured of her sister, whose only objection was their prior connexion by marriage; yet the lady agreed to abide by the decision of competent divines: on which he stated a case as that of a third person, with great learning and address; but the archbishop of Canterbury and other divines decided against him. He shot himself in 1693.

BLOUNT (Thomas), a learned English barrister, of the seventeenth century, born at Bordesley in Worcestershire, had not an university education; but by strength of genius and great application wrote, 1. The Academy of Eloquence, or Complete English Rhetoric, 12mo. 1654, often reprinted. 2. Glossographia, or a Dictionary of Hard Words, 8vo. London, 1656, of which there were at least five editions. 3. The Lamps of the Law, and the Lights of the Gospel, 8vo. *ibid.* 1658. 4. Boscobel, the first part in 1660, the second in 1681. 5. A Law Dictionary, fol. *ibid.* 1671. 6. *Fragmenta Antiquitatis*, or Ancient Tenures of Land, &c. 8vo. 1679 and 1784, which has been lately reprinted in 4to. 7. A Catalogue of the Catholics who lost their Lives in the King's Cause, during the Civil War, printed at the end of lord Castlemain's Catholic Apology. 8. A Pedigree of the Blounts, printed in the Complete Gentleman, 1661. He died in 1679.

BLOUNTSVILLE, a post town of the United States, in North Carolina. It is thirty miles S.S.E. of Halifax, and 413 from Philadelphia.

BLOW', *v.* } Ang.-Sax. *blawan*, to cast
BLOW'ER, } forth; to send out air, with vio-
BLOW'ING, } lence, and noise; when natural
BLOW'N. } breathing is accelerated, it be-
comes puffing and blowing; when the air is stirred beyond the zephyr which plays with the summer beam it becomes wind; and we say the wind blows. To blow always implies effort; the Metropolitana says excess. Query?

The priests shall *blow* with the trumpet. *Joshua*.
When ye *blow* an alarm, then the camps that lie on the east parts shall go forward. *Numbers*.

Blow the trumpet among the nations. *Jeremiah*.
I have created the smith that *bloweth* the coals.

Isaiah.

A fire not *blown* shall consume him. *Job*

At his sight the mountains are shaken, and at his will the south wind *bloweth*. *Eccles.* xliii. 16.

His sea horses did seeme to snort amayne,
And from their nosethrilles *blow* the brynie streame,
That made the sparkling waves to smoke agayne
And flame with gold; but the white fomy creame
Did shine with silver and shoot forth his beame.

Spenser.

Here's Mrs. Page at the door, sweating and *blow-
ing*, and looking wildly. *Shakspeare*.

Rather at Nilus' mud

Lay me stark naked, and let the water-flies

Blow me into abhorring. *Id.*

When icicles hang by the wall,

And Dick the shepherd *blows* his nail,

And Tom bears logs into the hall,

And milk comes frozen home in pail. *Id.*

A plague of sighing and grief! it *blows* a man up
like a bladder. *Id.*

Your breath first kindled the dead coal of war,

And brought in matter that should feed this fire.

And now 'tis far too huge to be *blown* out

With that same weak wind which enkindles it. *Id.*

No *blown* ambition doth our arms incite,

But love, dear love, and our aged father's right.

Id. *King Lear*.

Blow winds and crack your cheeks! rage! *blow*!

You cataracts, and hurricanoes, spout

Till you have drenched our steeples, drowned the
cocks! *Id.*

All the sparks of virtue, which nature had kindled
in them, were so *blown* to give forth their uttermost
heat, that justly it may be affirmed, they inflamed
the affections of all that knew them. *Sidney*.

Where the bright Seraphim in burning row,

Their loud uplifted angel trumpets *blow*. *Milton*.

His praise, ye winds, that from four quarters *blow*

Breathe soft or loud; and wave your tops ye pines,
With every plant in sign of worship wave. *Id.*

What if the breath that kindled those grim fires,

Awaked should *blow* them into sevenfold rage,

And plunge us into flame. *Id.*

Fair daughter, *blow* away those mists and clouds,

And let thy eyes shine forth in their full lustre.

Denham.

These primitive heirs of the Christian church could
not so easily *blow* off the doctrine of passive obedience.

South.

Says the satyr, if you have gotten a trick of *blow-
ing* hot and cold out of the same mouth, I've e'en
done with ye. *L'Estrange*.

It *blew* a terrible tempest at sea once, and there
was one seaman praying. *Id.*

If it *blows* a happy gale, we must set up all our
sails; though it sometimes happens that our natural
heat is more powerful than our care and correctness.

Dryden.

Their chief *blown* up in air, and waves expired,
To which his pride presumed to give the law. *Id.*

The trumpets sleep, while cheerful horns are *blown*,
And arms employed on birds and beasts alone.

Pope.

On the next day, some of the enemy's magazines
blew up; and it was thought they were destroyed on
purpose by some of their men. *Tatler.*

Ye too, ye winds! that now begin to *blow*

With boisterous sweep, I raise my voice to you.

Thomson's Seasons.

BLOW', *v.* & *n.* } Ang.-Sax. *blowan*, to blow.
BLOW'TH, *n.* } To bloom, blossom, or bear
BLOW'ERS. } flowers; to bud; to burgeon;
to spring; to flourish.—*Summer.*

The first age was by ancient historians called
Golden; ambition and covetousness being as then
but green, and newly grown up, the seeds and ef-
fects whereof were as yet but potential, and in the
blowth and bud. *Raleigh.*

Tulips are generally divided into three classes, ac-
cording to their seasons of flowering. But there is
no occasion for making any more distinctions than
two, viz. early and late *blowers*. *Miller.*

We lose the prime to mark how spring
Our tender plants, how *blows* the citron grove,
What drops the myrrh, and what the balmy reed.

Milton.

This royal fair
Shall, when the blossom of her beauty's *blown*,
See her great brother on the British throne.

Waller.

Fair is the king-cup that in meadow *blows*;
Fair is the daisy that beside her grows. *Gay.*

For thee Idume's spicy forests *blow*,
And seeds of gold in Ophir's mountains glow.

Pope.

For me, when I forget the daring theme,
Whether the blossom *blows*, the Summer ray
Russets the plain, inspiring Autumn gleams,
Or Winter rises in the blackening East,
Be my tongue mute, may Fancy paint no more,
And, dead to joy, my heart forget to beat. *Thomson.*

No flowers embalmed the air, but one white rose,
Which on the tenth of June by instinct *blows*,
By instinct *blows* at morn, and, when the shades
Of drizzly eve prevail, by instinct fades.

Churchill. The Prophecy of Famine.

BLOW', } Dutch *blowe*. The act of
BLOW'GEVER, } striking; a stroke; a sudden,
impetuous, injurious, assault; a hit, a knock, a
stroke; figuratively, any calamity that comes in a
moment; any act of hostility: a sudden event;
the stroke of the king of terrors; death.

The tyrant thundered his thicke *blowes* so fast,
That through the yron walls their way they rent,
And even to the vitall parts they past,
Ne ought could they endure, but all they cleft or brast. *Id.*

Our Lord Jesus might bothe have destroyed the
wicked byshop, and also have letted this *bloungeur*.

Udall. John, chap. xxviii.

A most poor man, made tame to fortune's *blows*,
Who by the art of known and feeling sorrows
Am pregnant to good pity. *Id. King Lear.*

Be most abated captives to some nation
Than won you without *blows*. *Shakspeare.*

A woman's tongue,
That gives not half so great a *blow* to the ear,
As will a chestnut. *Id. Taming of the Shrew.*

But to turn tail, or run away,
And without *blows* give up the day,
Or to surrender ere the assault,
That's no man's fortune, but his fault.

Butler's Hudibras.

Assuage your thirst of blood, and strike the *blow*.

Dryden.

Every year they gain a victory, and a town; but
if they are once defeated they lose a province at a
blow. *Id.*

Unarmed if I should go,
What hope of mercy from this dreadful foe,
But woman-like to fall, and fall without a *blow*? *Pope.*

Words of great contempt commonly finding a re-
turn of equal scorn, blows were fastened upon the
most pragmatical of the crew. *Clarendon.*

To all but thee in fits he seemed to go,
And it was my ministry to deal the *blow*. *Parnell.*

Such dire achievements sings the bard that tells
Of palfrey'd dames, bold knights, and magic spells—
Where whole brigades one champion's arms o'er-
throw,

And cleave a giant at a random *blow*;
Slay paynims vile that force the fair, and tame
The goblin's fury and the dragon's flame. *Tiehell.*

But first, ere came the rallying host to *blows*,
And rank to rank, and hand to hand oppose,
Gulnare and all her haram handmaids freed,
Safe in the dome of one who held their creed,
By Conrad's mandate safely were bestowed,
And dried those tears for life and fame that flowed.

Byron's Corsair.

Blow, in fencing, differs from a thrust, as the
former is given by striking, the latter by pushing.

Blow, in law. See BATTERY.

BLOW, MILITARY, that given with a sword on
the neck or shoulder of a candidate for knight-
hood, in the ceremony of dubbing him. It
seems to have taken its rise from the ancient ce-
remony of manumission. In giving the blow,
the prince used the formula, *Esto bonus miles*,
'Be a valiant soldier'; upon which the party
rose a complete knight, and qualified to bear
arms in his own right.

BLOW (Dr. John), a musician and composer,
was a native of Collingham in Nottinghamshire.
Upon the death of Purcell, in 1695, he became
organist of Westminster Abbey, and in 1699
composer to the king. Blow was a composer of
anthems while a chapel-boy, and distinguished
by Charles II. for his merit. He composed at
that early period that beautiful song, 'Go per-
jured man.' He set to music an ode for St. Ce-
cilia's day in 1684, the words by Mr. Oldham,
published with one of Purcell. He also pub-
lished a work entitled *Amphion Anglicus*, in
1700, in imitation of Purcell's *Orpheus Britan-
nicus*, and containing compositions for one, two,
three, and four voices, with a thorough bass for
the organ, harpsichord, &c. He likewise pub-
lished a collection of lessons for the harpsichord,
and Dryden's ode on the death of Purcell.
There are also extant of his composition various
hymns printed in the *Harmonia Sacra*, and a
great number of catches. He died in 1708.

BLOWING, a ceremony in the ancient admi-
nistration of baptism, whereby the catechumen,
upon rehearsing the renunciation, blew three
blasts with his mouth, to signify that he rejected
the devil. Something like this is still retained

in the Russian church. The priest who administers baptism, is enjoined to blow thrice on the child's face, making the sign of the cross and pronouncing the words, *exi ab eo Satan*.

BLOWING, in gardening, the action of flowers, whereby they open and display their leaves. The regular blowing season is in the spring; though some plants have other extraordinary times and manners of blowing, as the Glastonbury thorn. Some flowers also, as the tulip, close every evening, and blow again in the morning. Annual plants blow sooner or later, as their seeds are put into the ground; whence the curious in gardening sow some every month in summer, and have a constant succession of flowers. The blowing of roses may be retarded by shearing of the buds as they expand.

BLOWING OF FIRE-ARMS, is when the vent or touch-hole is run or gullied, and becomes wide, so that the powder will flame out.

BLOWING OF GLASS, one of the methods of forming various kinds of works in the glass manufacture. It is performed by dipping the point of an iron blowing-pipe into melted glass, and blowing through it with the mouth, according to the circumstances of the glass to be blown. See GLASS.

BLOWING OF TIN, denotes the melting of its ore, after being first burnt, to destroy its mundic.

BLOWING MACHINES, in the arts and manufactures, are improved bellows or instruments for producing the strongest continued current of air, for a given purpose, or for facilitating the combustion of fuel, and the production of heat.

For the common bellows which bears the greatest resemblance to lungs, see BELLOWS. It was a very early contrivance for artificial blowing. The blast, however, in this machine, is not continuous, but in puffs; or at intervals of time required for the air to enter through the valve; the blowing interval being as the areas of the apertures to the filling interval. This was for some time attempted to be remedied by employing two bellows which blew alternately, the blowing of one taking place while the other was filling. To this succeeded the invention of what are called double bellows, which was a valuable acquisition in the art of blowing. We have only to take a third board exactly of the shape of the two belonging to the single bellows, and connect it with the lower board by a piece of leather similar to that of the single bellows, making two cavities exactly similar, and separated by the lower board of the single bellows, which now becomes the middle board of the double. The third board we shall now call the lower board. This latter has a valve in it exactly similar to the first, which still retains its place in the new construction. The middle board is now fixed in a horizontal position, the pipe being placed to the fire to be blown. The lower board is held down by a weight, which keeps the lower cavity constantly full of air, and the top board has a weight laid upon it which presses all the air out of the upper cavity through the pipe. The requisite action by which the blowing is performed, is, first, to lift up the lower board. This forces the air from the lower into the upper cavity, the valve in the middle

board preventing its return. The weight on the upper board now presses the air with a uniform blast through the pipe. During this time the lower board descends, which fills the lower cavity with air from the atmosphere. This again rises, and gives its contents to the upper cavity, and thence through the nose-pipe. Hence we see that irregular puffing blast, which belongs to the single bellows, is here confined to the lower board only, which supplies air to the upper cavity, while the upper board is constantly pressing uniformly upon the air in it. But this does not completely obviate the irregularity of the blast. So long as the lower board is not in action, the pressure of the upper board being uniform, the blast is the same. Every time, however, the bottom board rises to force the air into the upper cavity, an extra pressure is given to the air in the upper cavity, and a temporary puff is produced. In the application of bellows to the smith's forge, the continued blast was of less importance than in the blast-furnaces applied to the smelting or refining of ores. The single bellows are at present almost exclusively employed by anchor-smiths and cutlers, while the blacksmith and most others use double bellows, which are doubtless better.

In France and on the Continent, where bellows have been wholly formed of wood, instead of the flexible sides of leather, they consist of two boxes, each open on one side, and the one being just capable of containing the other. The outer box being placed with the mouth upwards, the other is made to descend into it, with the mouth downwards; the latter being capable of moving up and down, while the other remained fixed. In the bottom of the fixed box is a valve like the common bellows, and a pipe on the same level, to let out the blast. The change of capacity, by the motion of this box, causes the blast, and with less waste of power than that occasioned by the bending of the leather in the common bellows.

A machine of this kind appears in our plate **BLOWING MACHINES**, figs. 1, 2, 3. **A B C P E F**, fig. 1, is a wooden box, which has its top and two sides flat or straight, and the end, **B A E**, formed into an arched or cylindrical surface, of which the line **F P** at the other end is the axis. This box is open below, and receives within it the shallow box **K H G M**, &c. fig. 2, which exactly fills it. The line **F P** of the one coincides with **F P** of the other, and along these lines is a set of hinges, on which the upper box turns as it rises and sinks; the lower box is made fast to a frame sunk in the ground. A pipe or tube, **Q Q**, proceeds from the end of it and terminates at the furnace, where it ends in a small pipe called a tuyere. This lower box is open above, and has in its bottom two large valves, **V V**, opening inwards. The conducting pipe is also sometimes furnished with a valve opening outwards, to prevent burning coals from being sucked into the bellows when the upper box is drawn up. The joint along **P F** is made tight by thin leather nailed along it. The sides and ends of the fixed box are made to fit the sides and curved end of the upper box, so that this last can be raised and lowered round the joint

F P without sensible friction; and yet without suffering much air to escape; but as this would not be sufficiently air tight, by reason of the shrinking and warping of the wood, a farther contrivance is had recourse to. A slender lath of wood divided into several joints, and covered on the outer edge by soft leather, is laid along the upper edges of the sides and ends of the lower box. This lath is so broad that when its inner edge is even with the inside of the box, its outer edge projects about an inch. It is kept in this position by a number of steel wires, which are driven into the bottom of the box and stand up touching the sides. By these means the laths are pressed close to the sides, and curved end of the movable box, and the spring wires yield to all their inequalities. A bar of wood, R S, is fixed to the upper board, by which it is either raised by machinery, to sink again by its own weight (having an additional load laid on it), or it is forced down by a crank or wiper of the machinery, and afterwards raised by the same. The operation here is precisely the same as in the common household bellows. When the board is lifted up, the air enters by the valves V V, fig. 3, and is afterwards expelled at the pipe Q Q. These machines, used in the larger metallurgical operations of mining countries, and throughout the continent, are sometimes of very great size, and are made capable of expelling ninety cubic feet of air at one stroke, repeated eight times in a minute.

English blowing machines have been chiefly improved by means of a piston and cylinder, the latter commonly of iron, but sometimes composed of wood on the plan of coopers' work. The piston is surrounded with a broad strap of thick soft leather, and stuffed similarly to that of the steam engine. The cylinder is furnished with one or more large valves in the side or bottom, by which the air enters when the piston is drawn upwards, and is expelled of course when it goes down: this action driving it along a large pipe which terminates in a small orifice connected with the furnace, and sometimes with a wind cellar or reservoir of air, which supplies forges, &c. by means of a cock. The piston in these cases is raised by water or other works; and sometimes two or more are working at a time to ensure a uniform blast.

The blowing machine of Chastillon consists of two cylinders, A, B, fig. 4, loaded with weights, which are suspended from the two extremities of a lever, or beam, moving about a central fulcrum E. From the top of each there is a large flexible pipe, which are both united in H, whence a pipe I I T leads to the tuyere. There are valves at G and H opening upwards, into the flexible pipes; and other valves, L, M, adjoining to them, in the top of each cylinder, opening inwards, but kept shut by a slight spring. Motion is given to the lever by a machine, which may of course have water, wind, or steam, for its impelling agent. The operation of this engine is evident: when the cylinder A is descending, the water entering at its bottom compresses the air, and forces it along the pipe F H K T. In the mean time the cylinder B is rising, the air finding an entrance through the valve M: having reached the top, it begins to descend, and the other to ascend, and thus the

blast is rendered nearly continuous, but certainly not so equable as is desirable in most cases. An improvement upon this construction has been introduced at the Patent Iron Cable Manufactory of Messrs. Brunton and Co. Commercial Road; where, instead of the flexible pipe K H T, a pipe is standing up a little above the surface of the water under each cylinder; through which the air is made to pass by the compression caused by the descent of each cylinder; the air also passing into a general reservoir or wind chest, is kept constantly under a given pressure and led to any required point. The lever to which the cylinders are suspended, is attached immediately to the beam of a small steam engine applied wholly to this purpose, and thus the utmost uniformity of action is secured. Each of these is, in fact, a species of hydraulic bellows. The extensive use of coal in smelting iron, first rendered it necessary in this country to construct durable machines, capable of affording a powerful and constant blast. The first cylinders of magnitude used as blowing machines were erected by Mr. John Sineaton, in 1760, at the Carron Iron Works. The pumps were wrought alternately by a water wheel, having four cranks upon its axis, each of which moved the piston of a cylinder, which had a stroke of four feet six inches; the diameter of each cylinder being also four feet six inches. Where a fall of water could not be obtained, steam engines were employed to work the pumps. A water regulator has been introduced of late years, connected with a double acting blowing cylinder, wrought by a steam engine.

A machine of this kind, of large dimensions, is represented in fig. 5. It is wrought by a steam engine of thirty-five horse power, with a steam cylinder of thirty-three inches diameter, acting with a seven feet stroke. On the opposite end of the beam from the steam cylinder is jointed the rod D, which is turned exceedingly true, so as to move through the stuffing box without allowing any air to escape, and without any unnecessary friction. A quantity of hemp is placed round the rod in the box *aa*, which forms part of the lid of the cylinder, and is held tight by the iron nuts *b, b*. The piston is fitted to the lower end of the rod D, and is packed with leather so as to fill exactly the internal diameter of the cylinder A A. To this cylinder are fixed four necks, B, F, G, H; two of which, B, F, contain the suction valves, by which the air enters the cylinder, while the other two contain the forcing valves, through which the air is expelled at every elevation and depression of the piston into the chambers I, K, and through the pipes L, M, into the regulating receiver O P, which is of the form of a parallelepipedon, or an inverted box without the lid, and is immersed in a cistern R S, filled with water. Let us suppose that the piston is at the bottom of the cylinder A A, and begins to be raised by the engine. The air above the piston will obviously be condensed, and forcing open the hanging valves in the neck G, will rush through them into the pipe L, and thence into the receiver O P. While the piston thus rises and condenses the air above it, there is a vacuum below the piston, and the external air rushes through the valves in the neck F, and fills the space below the piston. When the piston descends



BLOWING MACHINE.

Fig. 1.

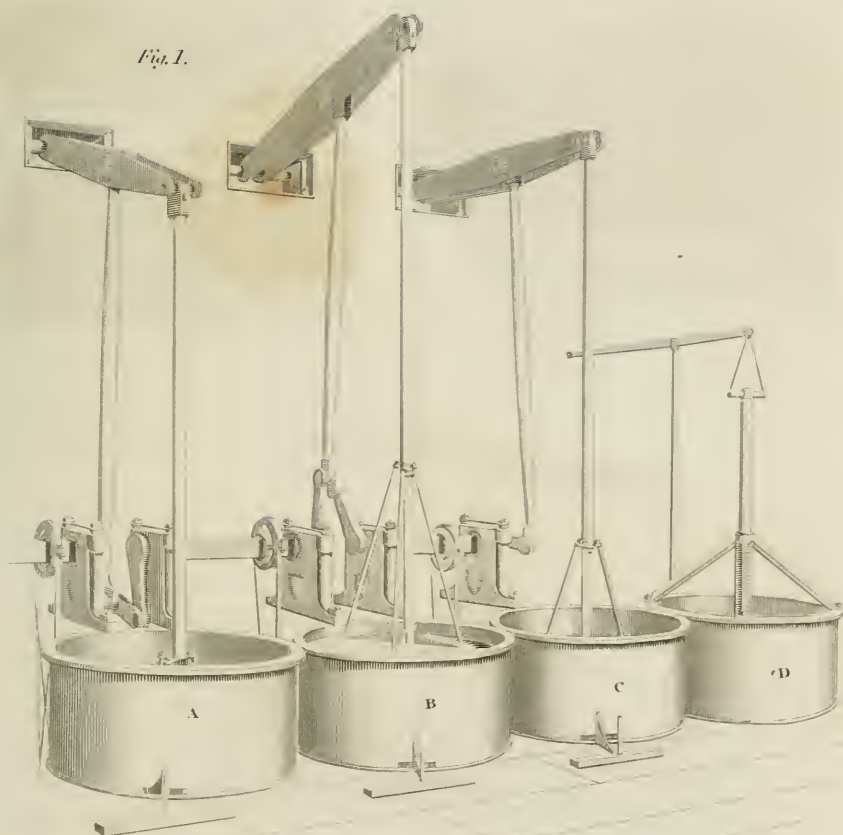


Fig. 3.

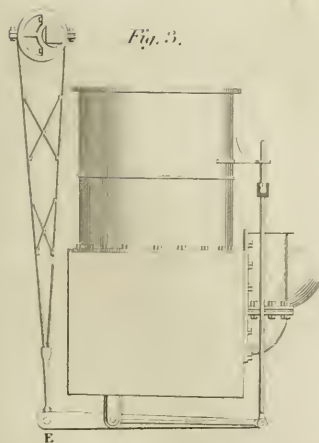


Fig. 4.

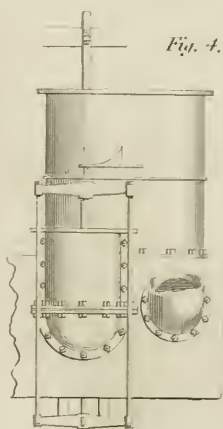
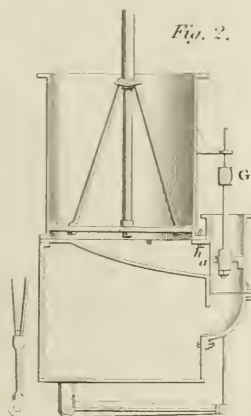


Fig. 2.



from the top to the bottom of the cylinder, the air below it is condensed, and forced through the valves in the neck H into the pipe L, and thence into the receiver OP, while the space above the piston is a vacuum, and is instantly filled by the rush of the external air through the valves in the neck B. This operation is repeated at every stroke of the engine; the cylinder full of air, which is inhaled at the necks B and F, being forced through the opposite necks G and H. When the piston reaches the top or bottom of the cylinder, there would evidently be a short cessation in the blast of air that passes into the furnace, were it not for the regulating receiver OP. When the air is forced into this receiver, the water within it is pushed out or displaced, and rises in the cistern, so that the surface of the water in the cistern is often six, seven, or eight feet higher than the surface of the water in the receiver. The air in the receiver, therefore, is pressed upwards by a column of water, six, seven, or eight feet high, so that if there should be any intermission in the supply of air from the cylinder, the blast will be kept up by the extrusion of the air in the receiver. The receiver OP, as shown in the figure, is composed of a great number of cast iron plates, united by screws and flanches. Its size in the drawing is purposely diminished, in order to comprise it within the limits of the plate. The general size is forty feet in length, twelve feet in depth, and twelve feet in breadth. The water cistern is then forty-seven feet long, fourteen feet deep, and nineteen feet broad. The receiver is supported upon blocks of wood and masonry; its lower edge being two feet from the floor of the cistern, to allow a free passage for the water. The buoyancy of the receiver is overcome by a great quantity of masonry placed upon the top of it; but we have omitted this in the figure, for the purpose of showing the manner of uniting the plates of which it is composed.

A valve, loaded with a weight, is placed at T in the horizontal pipe. The weight is sufficient to keep the valve shut when the engine works with a proper velocity; but when it works too hard, the excess of air will escape through the valve. When this happens, the velocity of the engine must be diminished.

The horizontal pipe NM, after bending downwards, is divided into two branches X, Y, which, by a series of pipes, convey the air round the furnace, so as to introduce the blast at opposite sides of the hearth; a practice which is now pretty generally followed.

The cylinder AA is made of cast iron, with a flanch at each end. The upper necks G, B, are cast in the same piece with it, but the lower ones, H, F, are screwed to the under flanch of the cylinder. The valves within the necks B and F open inwards. They are made of leather, covered with plates of iron, and are screwed, by a projecting part of the leather, against the external plate, *a*, of the chamber, so as to cover three corresponding apertures in the plate (see fig. 2), *x*, *y*, which is screwed to the neck by a number of bolts, shown in the figure. This plate is removed when the valves require any material repairs; but any trifling adjustments may be made, by

the workman's thrusting his hand through one of the valves to repair the adjacent one. The plates which carry the valves in the chambers I, K, are not movable; but apertures are left above to give access to the valves. These apertures, when the engine is at work, are covered by the lids *h*, *h*, which are fixed down by screws at each end.

The piston is rendered air-tight by means of a ring of leather screwed on the upper and one on the under side of the piston, which, in consequence of their elasticity, press gently against the inside of the cylinder. In order to renew these rings when worn out, there is a hole in the lid, and another in the bottom of the cylinder, sufficient to admit a man for that purpose. In some cases a movable lid in the piston.

The cylinder is held down by four large bolts, two of which are seen in the figure at *d*, *d*, passing through a massive pier of brickwork or masonry, sufficiently stable to keep the cylinder steadily in its place. The cistern RS is placed at a much greater distance from the cylinder than is represented in the figure, lest the tremulous motion produced by the violent concussion of the included air should make the cistern leak. An accident of this nature ought to be carefully prevented; as the water which escapes may insinuate itself into the sand of the casting-house, and occasion the most perilous explosions, when the hot metal is introduced into the moulds.

The internal diameter of the cylinder AA is five feet two inches, and the stroke seven feet. It is capable of blowing one furnace, when working at the rate of six strokes per minute.

But the blowing machine lately erected at the smithery in his Majesty's dock-yard, Woolwich, is perhaps the most powerful and most complete in the kingdom. It is equal to the supply of air for forty forge fires, amongst which are those for forging anchors, iron knees, and other heavy smithery works. It is represented in our plate II. BLOWING MACHINE; fig. 1, being a perspective view of the engine, and figs. 2, 3, and 4, elevations and sections of the blowing cylinders. The part seen in fig. 1, is only that which appears above the level of the floor. The other part is below, and may be seen in figs. 2, 3, and 4. The length of the cylinders is five feet five inches, of which two feet four inches appear above the floor; the interior diameter of each cylinder is four feet eight inches, and the length of the stroke is also four feet eight inches; which is repeated in each of the three cylinders A, B, C, twenty times per minute, which corresponds to an expulsion of nearly 5000 cubic feet of air per minute. The fourth cylinder, D, is used only to regulate the pressure, as will be explained below.

The motion communicated to the piston rods is so contrived, that while one piston rod is at its highest point, another is half way down, or up, and the other quite down. A large iron wind-chest, twenty-two feet five inches in length, is placed on proper stone supports or pillars in the cellar below, and upon this are fixed the four cylinders A, B, C, D, the latter being open to the chest at its bottom, but the others are closed. From this chest, under the cylinder C, proceeds the main eduction pipe, shown in the elevations, figs. 3 and 4, and from this, branch pipes proceed

to the several forges, each pipe near the forge being furnished with a cock, so that the blast may be turned off or on at pleasure.

In fig. 3 will be seen a short cylinder behind the eduction pipe, in which is a valve shown more particularly in fig. 2, where the section is made to pass through the axis both of the valve cylinder and blowing cylinder; the former elevation being at right angles to the principal axis of the machine, and that in fig. 4, parallel to the same, neither of which therefore embrace the valve cylinder, which is placed somewhat on one side.

On the principal axis, fig. 1, are seen three eccentric wheels, furnished with iron straps, fig. 3, which are connected with the lever under the wind chest, seen in fig. 3, at E: and these wheels are so arranged, in respect to the corresponding crank, that when the piston of any cylinder is either above or below, the lever, fig. 3, is horizontal, and the valve *a* then exactly closes the hole *h*, fig. 2. When the piston in this figure begins to ascend; the end, E, of the lever, fig. 3, continues to ascend also, and the other end, F, descends, and being connected with the valve rod at G, fig. 2, this also descends, and thereby opens a communication between the interior of the cylinder and the atmosphere, which former thus receives a fresh supply of air. This valve continues to descend till the piston is half way up; it then begins to ascend till the piston is at its highest point, when the valve has again exactly the position shown in the figure. The piston now descends, but the valve rod still continues to ascend, and thereby opens a communication between the cylinder and wind chest, into which latter the air is forced by the action of the piston. When this latter is half way down, the valve rod has reached its highest point, and then continues to descend with the piston till the latter is down, when the hole *h* is again covered with the valve, and the whole is situated as at first, to have the process again repeated as above described. By these means the cylinders are successively opened to the atmosphere, and then to the wind chest, and a constant influx of air is produced. To preserve a steady action in the valve rods, they are made to pass through guards level with the floor, as shown in figs. 1 and 2. The cylinder, D, has no bottom, being open to the wind-chest, and its piston, which weighs 700 lbs. serves only to regulate the pressure, which amounts to about one-fourth lb. per square inch. When the pressure exceeds this, the piston rises and opens a safety valve connected with this cylinder at the back, not seen in our drawing, but the operation of which will be easily conceived. The form of the bottom of the cylinder, shown in fig. 2, is peculiar only to that particular section, the other part of the bottom is perfectly flat, its purpose is to furnish a communication with the valve cylinder.

BLOWING SNAKE, in zoology, a name given in Virginia to a species of serpent, resembling the European viper, but considerably larger, and remarkable for inflating and extending the surface of its head before it bites. Its wound is fatal.

BLOW-PIPE, the blow-pipe has become in

chemistry, mineralogy, &c. so extremely useful an instrument, as to form an essential article in the laboratory. It is employed to raise an intense heat by the flame of a lamp or candle, and operates by rapidly and strongly throwing a current of air through the flame, against the object to be heated. The blow-pipe is capable of heating a small object in a manner that would be difficult to heat a large quantity of the same substance in the most powerful furnaces; with this advantage also that the process is much more under the inspection of the operator. We refer to **LABORATORY** for an account of the more scientific inventions and improvements of this kind.

The blow-pipe of artificers, consists of a conical metal tube, regularly tapering from the size convenient to be held in the mouth to that of a small pin: The small end is bent with a regular curvature, so as to be nearly at right angles to the main tube. This pipe being held in the mouth, and a regular stream of air discharged through it into the flame of a candle, the flame is projected sideways into a long conical spiracle of fire, which is of a blue color at its root, or the part where it joins the flame; farther on it is of a yellow cast, growing more and more faint towards the extreme point. The object to be heated is held so that the flame strikes upon it; or, if it is large, it should be placed upon a piece of charcoal, which reverberates the flame forcibly on all sides of the object, and at the same time maintains the heat by its own combustion. This instrument is very effective in the hands of a skilful operator. 'There is an artifice, says Dr. Ure in the blowing through this pipe, which is more difficult to describe than to acquire. The effect intended to be produced is a continual stream of air for many minutes, if necessary, without ceasing. This is done by applying the tongue to the roof of the mouth, so as to interrupt the communication between the mouth and the passage of the nostrils; by which means the operator is at liberty to breathe through the nostrils, at the same time that by the muscles of the lips he forces a continual stream of air from the anterior part of the mouth through the blow-pipe. When the mouth begins to be empty, it is replenished by the lungs in an instant, while the tongue is withdrawn from the roof of the mouth, and replaced again in the same manner as in pronouncing the monosyllable *tut*. In this way the stream may be continued for a long time without any fatigue, if the flame be not urged too impetuously, and even in this case no other fatigue is felt than that of the muscles of the lips. A wax candle, of a moderate size, but thicker wick than they are usually made with, is the most convenient for occasional experiments; but a tallow candle will do very well. The candle should be snuffed rather short, and the wick turned on one side toward the object, so that a part of it should lie horizontally. The stream of air must be blown along this horizontal part, as near as may be without striking the wick. If the flame be ragged and irregular, it is a proof that the hole is not round and smooth; and if the flame have a cavity through it, the aperture of the pipe is too large. When the

hole is of a proper figure, and duly proportioned, the flame consists of a neat luminous blue cone, surrounded by another flame of a more faint and indistinct appearance. The strongest heat is at the point of the inner flame.'

BLOW-PIPE, in anatomy, is a straight hollow brass tube, of an elongated conical form, about six inches in length, and open at both ends. The large end is three-tenths of an inch in diameter, the smaller is of the size of a needle's point. It is used for blowing air into the collapsed vessels of a dead subject, in order to ascertain the course of them.

BLOWZE, } One who by exposure to
BLOW'ZED, } wind and weather has a ruddy
BLOW'ZY, } and coarse complexion; an appearance of boisterous health; unfeminine.

I had rather marry a fair one, and put it to the hazard, than be troubled with a blowze; but do thou as thou wilt, I speake only of myself.

Burton. *Anat. of Mel.*

I protest I do not like to see my daughters trudging up to their pews all *blowzed* and red with walking, and looking for all the world as if they had been winners of a smock race.

Goldsmith.

BLUB', } From *bleb*; Germ. *blaen*.
BLUE'BER, v. & n. } to inflate; to swell; to
BLUBBER'ING. } tumify. To blubber is to indulge in unseemly violent weeping, so as to distend the cheeks and inflame the eyes; the precise idea is distension.

Fair streams represent unto me my *blubbered* face; let tears procure your stay.

Sidney.

The wild wood gods, arrived in the place,
There find the virgin doleful, desolate,
With ruffled raiment, and fair *blubbered* face,
As her outrageous foe had left her late.

Faerie Queene.

Even so lies she

Blubbering and weeping, weeping and *blubbering*.

Shakspeare. *Romeo and Juliet.*

A thief came to a boy that was *blubbering* by the side of a well and asked what he cried for.

L'Ettrange.

Soon as Glumdalclitch missed her pleasing care,
She wept, she *blubbered*, and she tore her hair.

Swift.

Thou sing with him, thou booby! never pipe
Was so profaned, to touch that *blubbered* lip.

Dryden.

Tired with the search, not finding what she seeks,
With cruel blows she pounds her *blubbered* cheeks.

Id.

Dear Chloe how *blubbered* is that pretty face,
Thy cheek all on fire, and thy hair all uncured,
Pri'thee quit this caprice; and (as old Falstaff says)
Let us e'en talk a little like folks of this world.

Prior.

The maudling hero, like a puling boy
Robbed of his play-thing, on the plains of Troy,
Had never *blubbered* at Patroclus' tomb.

Churchill.

BLUBBER is the fat of whales and other large sea animals, whereof train oil is made. It is properly the adeps of the animal: it lies immediately under the skin, and over the muscular flesh. In the porpoise, it is firm and full of fibres, and invests the body about an inch thick. In the whale its thickness is ordinarily six inches; but, about the under lip, it is two or three feet thick. The whole quantity yielded by one of these animals ordinarily amounts to forty or fifty, sometimes eighty hundred weight, or even more.

BLUBBER, SEA. See *MEDUSA* and *URTICA*.

BLUCHER (Gebhard Lebrecht Von), a celebrated Prussian general, was born at Rostock, in 1742. At the age of fourteen he entered the Swedish service, but being taken prisoner he transferred his services to Prussia. After the seven years' war he resigned his commission in disgust, and devoted himself to agriculture, but was recalled to his old regiment as major, by William II. and fought at the head of it till the battle of Leystadt, September 18th 1794, when he was made major-general. In 1806 he took possession of Erfurt and Muhlhausen, and after the battle of Jena made an extraordinary retreat through Lubeck, by which he drew the French across the Oder. On the taking of Lubeck he was obliged to capitulate, but was soon exchanged for marshal Victor. He was now employed in the war department, till the renewal of hostilities against France in 1813, when he displayed the utmost activity and courage for the deliverance of Europe. At Lutzen the order of St. George was given to him by the emperor Alexander, and on the 26th of August he defeated Macdonald at Katsbach. The glorious victory of Leipzig was in a great degree owing to his exertions; and he pursued the flying enemy across the Rhine with such celerity as to be called by the Russians 'Marshal Forwards.' After the battle of Montmartre, on the 31st of March, he would have severely retaliated the wrongs of Berlin upon Paris, had he not been restrained by the allied sovereigns, whom he accompanied to England, and was received with enthusiasm. His military glory attained its height at the battle of Waterloo. In a preceding engagement he had been defeated, his horse shot under him, and a whole regiment had charged and been repulsed over his person. After this great victory, to which he contributed by bringing up the Prussian forces towards the close of the battle, he was created prince of Wahlstadt, and received several additional orders of knighthood. Falling ill at Kriblowitz in 1819, the king of Prussia visited him repeatedly during his last sickness, which carried him off on the 12th of September in that year.

BLUE', } Sax. *blæo*; Fr. *bleu*. One
BLUE'LY, } of the seven original colors.
BLUE'NESS, } So says Johnson; but he
BLU'ISH, } attempts not either the ety-
BLUISH'NESS, } mology or the definition.
BLUE'EYED, } It seems to be derived from
BLUE'HAired, } the Ang.-Sax. *bleo*, to
BLUE'SWOLLEN, } blow; on which the writer
BLUE'VEINED. } in the *Encyclopædia* Metro-

politana has ventured a very ingenious, and as it should seem satisfactory conjecture:— 'may not the blue, formerly blewé sky, be the blew-en, or blown skye,—the sky from which the clouds are blown, dispersed. Vossius derives cœruleus from cælum. As other colors take their name from that by which they are produced, may not blue, the color of the clear sky after wind, derive its name from this circumstance.' The blowing color; the color exposed to view by the dispersion of the clouds; the blew-en, or blown sky.

Happily I him spide,
Where in a bush he did him hide,
With wings of purple and blew.

Spenser. Shepherd's Calendar.

The *blew* in black, the green in gray is tinct. *Id.*

There is gold, and here

My *bluest* veins to kiss ; a hand that kings
Have lipt and trembled kissing. *Shakespeare.*

Where fires thou findest uncracked, and hearths un-
swept,

There pinch the maids as *blue* as bilberry. *Id.*

O coward conscience how dost thou afflict me !

The lights burn *blue*. Is it not dead midnight ?
Cold fearful drops stand on my trembling flesh. *Id.*

Side sleeves and skirts, round underborne with a
bluish tinsel. *Id.*

These *blue-veined* violets whereon we lean,
Never can blab, nor know they what we mean. *Id.*

Why else this double object in our sight
Of flight pursued in the air, and over the ground,
One way the self-same hour ? why in the east
Darkness ere day's mid course, and morning light
More orient in yon western cloud, that draws
O'er the *blue* firmament a radiant white,
And slow descends, with something heavenly fraught ?

Milton. Paradise Lost.

This isle,

The greatest and the best of all the main,
He quarters to his *blue-haired* deities. *Id. Comus.*

In a moment our liquor may be deprived of its
blueness, and restored to it again by the affusion of a
few drops of liquor. *Boyle on Colours.*

At last, as far as I could cast my eyes
Upon the sea, somewhat, methought, did rise
Like *bluish* mists. *Dryden.*

Nor to the temple was she gone, to move
With prayers the *blue-eyed* progeny of Jove. *Id.*

Why does one climate and one soil endure
The blushing poppy with a crimson hue,
Yet leave the lilly pale, and tinge the violet *blue* ?
Prior.

There was scarce any other colour sensible besides
red and *blue* ; only the *blues*, and principally the *second*
blue, inclined a little to green. *Newton.*

This esquire he dropped his pen full soon,
While as the light burnt *bluely*. *Swift.*

Rise, then, fair *blue-eyed* maid, rise and discover
Thy silver brow, and meet thy golden lover. *Crashaw.*

I could make, with crude copper, a solution with-
out the *bluishness* that is wont to accompany its vulgar
solutions. *Boyle.*

Here, in full light, the russet plains extend ;
There, wrapt in clouds, the *bluish* hills ascend. *Pope.*

Deep in the grove, beneath the secret shade,
A various wreath of odorous flowers she made ;
Gay motleyed pinks and sweet jonquils she chose,
The violet *blue*, that on the moss-bank grows ;
All sweet to sense, the flaunting rose was there ;
The finished chaplet well adorned her hair.

Collins' Eclogues.

In vain she [Circassia] boasts her fairest of the
fair,

Their eyes' *blue* languish, and their golden hair ;
Their eyes, in tears, their fruitless grief must send ;
Those hairs, the Tartar's cruel hand shall rend. *Id.*

Long Pity let the nations view

The sky-worn robes of tenderest *blue*,
And eyes of dewy light. *Id. Ode to Pity.*

Look, how he laughs, and stretches out his arm,
And opens wide his *blue* eyes upon thine
To hail his father ; while his little form
Flutters, as winged with joy. *Byron.*

BLUE is one of the seven colors into which the
rays of light divide when refracted through a glass
prism. For an account of the particular struc-
ture of bodies by which they appear of a blue
color, see *CHROMATICS*.

BLUE ASHES, *Cendre blue*, Fr. by corruption,
Saunders blue, much used in water-colors ; but
in oil they grow greenish, being of the nature of
verdigris. They are found in the form of a soft
stone, in places where there are copper mines,
and water only is used in levigating them, to re-
duce them to a fine powder. This kind of blue
ought to be used in works to be seen by candle
light, as in scene painting ; for though a great
deal of white is mixed with it, it appears very
beautiful, notwithstanding it has a greenish cast.

BLUE-BOTTLE, *n. s.* cyanus ; from blue
and bottle ; a flower of the bell-shape ; a species
of bottleflower ; a fly with a large blue belly.

If you put *bluebottles*, or other blue flowers, into an
ant-hill, they will be stained with red : because the
ants thrust their stings, and instil into them their
stinging liquor. *Ray.*

Say, sire of insects, mighty Sol,

A fly upon the chariot pole

Cries out, What *bluebottle* alive

Did ever with such fury drive ? *Prior.*

BLUE CAP, an English name for a peculiar
species of fish of the salmon kind, distinguished
by a broad blue spot on the head, whence
they have their name. These seem not to breed
with us ; but appear in our rivers only at certain
seasons, when there have been violent north
winds. This fish is seldom found single ; so
that the fishermen rejoice at their taking one of
them, as they expect a large shoal of them at hand.

BLUE HILLS, a range of mountains in New
England, whose first ridge in New Hampshire
passes through Rochester, Barrington, and Not-
tingham.

BLUE JAPAN.—Take gum-water, and white
lead, a sufficient quantity ; grind them well upon
porphyry : then take isinglass size, and the finest
and best smalt, sufficient quantities : mix them
well, and add, of the white-lead, before ground,
so much as may give it a sufficient body. Mix
all these together to the consistence of a paint.

BLUE MOUNTAINS, a range of mountains in
the island of New Holland, north-west of the
British settlement at Port Jackson. 2. A chain
of mountains longitudinally intersecting the
island of Java. 3. A range of mountains in
Northampton county, Pennsylvania, which extend
from south-west to north-east, and a short way
across the Delaware. 4. A range of mountains
which run from south-east to north-west, through
Surrey county, in the island of Jamaica.

BLUE RIDGE, the easternmost ridge of the Al-
legany mountains, in Pennsylvania and Virginia,
about 130 miles from the Atlantic, and rising to
the height of 4000 feet above the level of the
sea ; thickly covered with large trees to the very
summit. Some of the mountains are rugged and
stony ; in others the soil is found to be rich and
fertile. See *ALLEGANY*.

BLUE, *LACMUS* or *LITMUS*. This is a beautiful
blue, made of lacmus in the following manner :
Take an ounce of lacmus, and boil it in a pint
of small beer wort, till the color is as strong as

you would have it; then pour off the liquor into a gallipot, and let it cool for use.

BLUE, PRUSSIAN, is considerably in use among painters, though inferior to the ultramarine blue. The following process for making the finest sort of Prussian blue with quicklime, is given in the History of the Academy of Sciences at Paris for the year 1756:—

Take 3lbs. of ox's blood, dried and reduced into a kind of small scales, an equal quantity of quicklime newly baked, 2lbs. of red tartar, and 1lb. 8oz. of saltpetre; pulverise the whole grossly and put it into a crucible, placed in the midst of a great furnace, and give it a gradual fire. After four hours, when the matter is reduced into a kind of paste which emits no more smoke, and is equally red, throw it by spoonfuls into two pails of boiling water; and, having filtrated the lixivium, mix it with a solution of 6lbs. of alum, and 1lb. 8oz. of green vitriol. This operation will yield but 7oz. of fecula; but its beauty will make sufficient amends for the small quantity.

BLUE, SAXON, a dye made by dissolving indigo in oil of vitriol, by which the indigo becomes of a much more lively color.

BLUE STONE, or POWDER, used in washing of linen, is the same with smalt, either in the lump or powdered. When the smalt is taken from the pot, it is thrown into a large vessel of cold water: this makes it more tractable, and easily powdered.

BLUE, ULTRAMARINE (beyond sea), from its being first brought into Europe out of India and Persia; one of the richest and most valuable colors used in painting, is prepared from lapis lazuli, by first calcining the stone in an iron pot; then grinding it very fine on porphyry; mixing it up with a paste made of wax, pitch, mastich, turpentine, and oil; and at last washing the paste well in clear water, to separate the coloring part from the rest, which precipitates to the bottom, in form of a subtle, beautiful, blue powder. The water is then poured off, and the powder dried in the sun.

BLUFF, } Bluntless; coarseness;
BLUFFNESS, } roughness of manner.

Like those whom stature did to crowns prefer,
Black-browed and *bluff*, like Homer's Jupiter. *Dryden*.

BLUFF-HEADED, among sailors is applied to a ship that has an upright stern.

BLUING, the act or art of communicating a blue color to bodies otherwise destitute thereof. Laundresses blue their linen with smalt; dyes their stuffs and wools with woad or indigo.

BLUING OF IRON, a method of beautifying that metal sometimes practised; for mourning buckles, swords, and the like. The manner is this: Take a piece of grind-stone or whet-stone, and rub hard on the work, to take off the black scurf from it: then heat it in the fire; and as it grows hot, the color changes by degrees, coming first to light, then to a darker gold color, and lastly to a blue. Sometimes also they grind indigo and sallad-oil together; and rub the mixture on the work with a woollen rag, while it is heating, leaving it to cool of itself.

BLUNDER, v. & n. } Dutch, *blunderer*;
BLUNDERER, } perhaps, says Dr.
BLUNDERINGLY, } Johnson, from blind.
BLUNDERHEAD. } The blind miss their

way; stumble; mistake; and were not their infirmity known, would thus expose themselves to contempt. To blunder is to act in the common affairs of life, as a stranger to a country would act in the dark, and as a blind man conducts himself without a guide; a blunderer is one who betrays great want, or obliquity of understanding, by the silly and barefaced mistakes into which he is constantly falling; a blunderer is a fool of the stupid class.

We *blunderen*, ever, and poren in the fire;
And for all that, we faillle of our desire.

Chaucer. Cant. Tales.

At the rate of this thick-skulled *blunderhead*, every plow-jobber shall take upon him to read upon divinity.

L'Estrange.

The grandees and giants in knowledge, who laughed at all besides themselves as barbarous and insignificant, yet *blundered* and stumbled about their principal concern.

South.

He seems to understand no difference between titles of respect and acts of worship; between expressions of esteem and devotion; between religious and civil worship: for he *blunders* and confounds all these together; and whatever proves one, he thinks proves all the rest.

Stillingfleet.

He who now to sense, now nonsense leaning,
Means not, but *blunders* round about a meaning. *Pope.*

Another sort of judges will decide in favour of an author, or will pronounce him a mere *blunderer*, according to the company they have kept.

Watts.

But how shall I thy endless virtues tell
In which thou dost all other books excel?
No greasy thumbs thy spotless leaf can soil,
Nor crooked dog's-ears thy smooth corners spoil;

In idle pages no errata stand,

To tell the *blunders* of the printer's hand. *Tickell*

He ne'er suspects his want of skill,

But *blunders* on from ill to ill;

And, when he fails of all intent,

Blames only unforeseen event.

Gay's Fables.

What *blundering* puppies are mankind,

In every science always blind. *Id.*

BLUNDERBUSS, n. s. from blunder. A gun that is charged with many bullets, so that, without any exact aim, there is a chance of hitting the mark.

There are *blunderbusses* in every loop-hole, that go off of their own accord at the squeaking of a fiddle.

Dryden.

BLUNDERBUSS, a well-known fire-arm, consisting of a wide, short bore, capable of holding a number of musket-shot or slugs; doing great execution in a crowd.

BLUNT, v. & adj. } The past participle

BLUNTING, } of the Ang-Sax. blin-

BLUNTISHNESS, } nan, to blin; to stop.

BLUNTNESS, } See Tooke. To stop in

BLUNTLY, } its progress towards a

BLUNTPOINTEd, } point or edge; to dull;

BLUNTWITTEd, } to deaden; to render

obtuse. Thus it is opposed to whatever is sharp or pointed; smooth, and delicate; when applied to the understanding it indicates dullness, approaching to stupidity; and to manners uncouth; incivility, and abruptness.

If the iron be *blunt*, and he do not wet the edge, then must he put to more strength. *Eccles.*

For weak was my remembrance it to hold,
And bad her tongue that it so *bluntly* told. *Spenser.*

Thanks to that beauty, which can give an edge to the *bluntest* swords. *Sidney.*

His silence grew wit, his *bluntness* integrity, his
beastly ignorance virtuous simplicity. *Id.*

Valentine being gone, I will quickly cross,
By some sly trick, *blunt* Thurio's dull proceeding. *Shakspeare.*

Blunt not his love;
Nor lose the good advantage of his grace
By seeming cold. *Id.*

I can keep honest counsels, mar a curious tale in
telling it, and deliver a plain message *bluntly*. *Id.*

*Blunteit*ted lord, ignoble in demeanour. *Id.*
To use too many circumstances, ere one come to
the matter, is wearisome; to use none at all is *blunt*.
Bacon.

Whitehead, a grave divine, was of a *blunt* stoical
nature. One day the queen happened to say, I like
thee the better, because thou livest unmarried. He
answered, Madam, I like you the worse. *Id.*

A man of honest blood,
Who to his wife, before the time assigned
For childbirth came, thus *bluntly* spoke his mind.
Dryden.

So sick'n waning moons too near the sun,
And *blunt* their crescents on the edge of day. *Id.*
Earthy limbs and gross alloy
Blunt not the beams of heaven, and edge of day. *Id.*

He had such things to urge against our marriage,
As, now declared, would *blunt* my sword in battle
And dastardize my courage. *Id.*

Manage dispute with civility; whence some readers
will be assisted to discern a difference betwixt *blunt-*
ness of speech and strength of reason. *Boyle.*

The crafty boy, that had full oft essayed
To pierce my stubborn and resisting breast,
But still the *bluntness* of his darts betrayed. *Suckling.*

The mayor of the town came to seize them in a
blunt manner, alleging a warrant to stop them.
Wotton.

'Tis not enough your counsel still be true:
Blunt truths more mischief than nice falsehoods do.
Pope.

And sorely would the Gallie foeman rue
If subtle poniards, wrapt beneath the cloke,
Could *blunt* the sabre's edge, or clear the cannon's
smoke. *Byron.*

BLUR', *v. & n.* Probably from the Dutch,
blere, a pustule; or blain, or spot: to blur is
to blot; partially to deface; to sully; to stain;
to smear; to disfigure.

Such an act,
That *blurs* the grace and blush of modesty,
Calls virtue hypocrite. *Shakspeare.*

Long is it since I saw him;
But time hath nothing *blurred* those lines of favour,
Which then he wore. *Id.*

Man, once fallen, was nothing but a great *blur*; a
total universal pollution. *South.*

Sarcasms may eclipse thine own,
But cannot *blur* my lost renown. *Hudibras.*

Concerning innate principles, I desire these men to
say, whether they can, or cannot, by education and
custom, be *blurred* and blotted out? *Locke.*

BLURT'. Probably from blur, to throw out
hastily: in a bad sense, to cast a reproach in-
considerately and without reflection. But it is
used indifferently for whatever bolts out of the
lips, and is said without consideration.

That name to which every knee bows, both of
things in heaven, and things on earth, and things
under the earth, whether they be angels or devils, re-
quires from you more respect and honour, than to be

idly *blurted* out with every rash and foolish expres-
sion. *Hopkms.*

And yet the truth may lose its grace,
If *blurted* to a person's face;
Especially if what you speak,
Should crimson o'er the glowing cheek. *Lloyd.*

Others cast out bloody and deadly speeches at ran-
dom; and cannot hold, but *blurt* out those words
which afterwards they are forced to eat. *Hakewell.*

They had some belief of a Deity, which they, upon
surprisal, thus *blurt* out. *Government of the Tongue.*

They blush if they *blurt* out, ere well aware,
A swan is white, or Queensbury is fair. *Young.*

BLUSH', *v. & n.* *Dut. blosen, blose;* per-
haps from *blasen*, to blow;
BLUSH'ET, } to exhale. Therefore na-
BLUSH'FUL, } turally applied to the first
BLUSH'ING, } appearance of the colors
BLUSH'LESS, } in flowers as they disclose
BLUSH'Y. }

their variety and beauty. To redden or grow
rosy with the vermilion tint. Its application, there-
fore, to the effect which emotion of any kind, and
especially modesty, or conscious shame, produces
in the countenance, is very natural. The sudden
rising of color in the cheeks is, from whatever
cause, to blush; hence, too, the word has been
applied to any sudden appearance, or to the first
manifestation of a subject. Thus Locke observes,
'all purely identical propositions, obviously, and
at first *blush*, appear to contain no certain in-
struction in them.'

Amphyon *blush't* as red
As any glowing flame:
And Orpheus durst not shew his face,
But hid his head for shame. *Tuberville.*

This beast had ii hornes, like the lambe at a *blush*;
but all counterfet and fals in very deede, for he spake
as did the dragon, the hornes of Christ are his high
kingdom in the world. *Bale's Image.*

Hee *blusht* to see another sunne belowe,
Ne durst againe his herie face out shoue. *Spenser.*

Pale and bloodless,
Being all descended to the lab'ring heart,
Which with the heart there cools, and ne'er returneth
To *blush* and beautify the cheek again. *Shakspeare.*

Go to, little *blushet*, for this anan
You'le steal forth a laugh in the shade of your fan.
Ben Jonson.

To-day he puts forth
The tender leaves of hope; to-morrow blossoms,
And bears his *blushing* honours thick upon him. *Id.*
Stratonica entering, moved a *blushy* colour in his
face; but deserting him, he relapsed into paleness
and languor. *Hurvey on Consumptions.*

But here the roses *blush* so rare,
Here the mornings smile so fair,
As if neither cloud, nor wind,
But would be courteous, would be kind. *Crashaw.*

Shame causeth *blushing*; *blushing* is the resort of
the blood to the face; although *blushing* will be seen
in the whole breast, yet that is but in passage to the
face. *Bacon.*

To the nuptial bower
I led her *blushing* like the morn; all Heaven,
And happy constellations, on that hour
Shed their selectest influence. *Milton.*

Small is the worth
Of beauty from the light retired:
Bid her come forth,
Suffer herself to be desired,
And not *blush* so to be admired. *Waller.*

From every blush that kindles in thy cheeks,
Ten thousand little loves and graces spring
To revel in the roses. *Rowe. Tamerlane.*
The virgin's wish, without her fears, impart;
Excuse the blush, and pour out all the heart. *Pope.*
Along those blushing borders, bright with dew. *Thomson.*

Won by the charm
Of goodness irresistible, and all
In sweet disorder lost, she blushed consent. *Id.*

BLUSHING is generally excited by a sense of shame, from consciousness of some failing or imperfection. It is supposed to be produced from a sympathy between the nerves which branch from the brain to the eye, ear, muscles of the lips, cheeks, &c.

BLUSTER, *v. & n.* From *blast, blastan*,
BLUSTERER, } to blow; to roar boisterously, as a violent
BLUSTERING, } wind; the voice of the
BLUSTEROUS. } storm: hence the term is applied to manners rude and uncourteous; to language loud, vociferous and threatening, accompanied with corresponding gestures. A blusterer is a bully, who is more formidable for his noise than his courage; one who puffs, swaggers, and looks big. The Pistol of all generations.—See *Shakespeare. Henry IV. Part II.*

Earth his uncouth mother was,
And blustering Æolus his boasted sire. *Spenser.*
So now he storms with many a sturdy stoure;
So now his blustering blast each coast doth scour. *Id.*

He bloweth and blustereth out at last his abominable
blasphemy against the blessed Sacraments of Christ.

Sir Thomas More.
Spare thy Athenian cradle, and those kin,
Which in the bluster of thy wrath must fall
With those that have offended. *Shakespeare.*

The skies look grimly,
And threaten present blusters. *Id.*

My heart's too big to bear this, says a blustering fellow; I'll destroy myself. Sir, says the gentleman, here's a dagger at your service; so the humour went off. *L'Estrange.*

A coward makes a great deal more bluster than a man of honour. *Id.*

To the winds they set
Their corners; when with bluster to confound
Sea, air, and shore. *Milton.*

The ancient heroes were illustrious
For being benign, and not blusterous. *Hudibras.*
Either he must sink to a downright confession, or must huff and bluster, till perhaps he raise a counter-storm. *Government of the Tongue.*

Virgil had the majesty of a lawful prince, and Statius only the blustering of a tyrant. *Dryden.*

There let him reign the jailor of the wind;
With hoarse commands his breathing subjects call,
And boast and bluster in his empty hall. *Id.*

So by the brazen trumpet's bluster,
Troops of all tongues and nations muster. *Swift.*

BLVTH, a parish and market-town of Nottinghamshire, in the hundred of Basset-Law, three miles south from Bawtry, and 151 N. N. W. from London. The church is a spacious and handsome structure. It had formerly a strong castle, a priory of Benedictine monks, and an hospital for lepers; but there are now no remains of either. It is a vicarage in the patronage of Trinity College, Cambridge. Market on Wednesday.

BLYTHER, a river of England, which runs into the German Ocean, near Southwold, in the county of Suffolk. 2. A river of England, which runs into the Tame, in the county of Warwick. 3. A river of England, which runs into the sea at Blythe, in the county of Northumberland. 4. A river of England, which rises in the county of Stafford, near Cheadle, and runs into the Trent.

BO, a cluster of six or seven islands in the Eastern seas, lying E. S. E. of the southern extremity of Gilolo. The most western is five or six miles round, low, and flat, the second somewhat higher, and the third the largest of the group. They are well inhabited, and supply navigators with abundance of cocoa-nuts, dried fish and salt. Long. 126° 25' E, lat. 1° 17' S.

BOA, or BOAE-ARUM, in ancient geography, an island on the coast of Illyricum, over against Tragurium, a place of banishment for condemned persons, now called Bua, an island in the Adriatic, joined to the continent and to Tragurium, now Trau, by a bridge.

Boa, in zoology, a genus of the order serpentes, class amphibia. The characters are, that the belly and tail are both furnished with scuta; no rattle. There are ten species, viz.

1. B. constrictor, has 240 scuta on the belly, and sixty on the tail. This is an immense animal: often thirty-six feet in length; the body is very thick, of a dusky white color, and its back is interspersed with twenty-four large pale irregular spots; the tail is of a darker color; and the sides are beautifully variegated with pale spots. The head is covered with small scales, and has no broad laminæ betwixt the eyes, but has a black belt behind them. The tongue is fleshy, and very little forked. Above the eyes, on each side, the head rises high. The scales of this serpent are all very small, roundish and smooth. The Indians, who adore this monstrous animal, use the skin for clothes, on account of its smoothness and beauty. There are several of these skins preserved, and to be seen in the different museums of Europe. The flesh is eaten by the Indians and Negroes of Africa. It frequents caves and thick forests, where it conceals itself, and suddenly darts out upon strangers, wild beasts, &c. When it chooses a tree for its watching-place, it supports itself by twisting its tail round the trunk or a branch, and darts down upon sheep, goats, tigers, or any animal that comes within its reach, twists itself several times round their body, and by the vast force of its circular muscles bruises and breaks all their bones. After the bones are broken, it licks the skin of the animal all over, besmearing it with a glutinous kind of saliva. This operation is intended to facilitate deglutition, and is a preparation for swallowing the whole animal. If it be a stag, or any horned animal, it begins to swallow the feet first, and gradually sucks in the body, and last of all the head. After this serpent has swallowed a stag or a tiger, it is unable for some days to move; the hunters who are well acquainted with this circumstance, always take this opportunity of destroying it. 2. B. canina, has 203 scuta on the belly, and seventy-seven on the tail; it is greenish and variegated with white belts. It is a native of America, lodges in the hollow trunks

of trees, and is about four feet long, and as thick as the small of the arm. 3. *B. cenchria*, has 256 scuta on the belly, and fifty-seven on the tail. It is of a yellow color, with white eye-like spots. It is a native of Surinam. 4. *B. constrictrix*, has 150 scuta on the belly, and forty on the tail: the head is broad, very convex, and has vesicles containing poison in the mouth, but no fang; the body is ash-colored, interspersed with large dusky spots; and the tail is about one-third of the length of the body. This serpent is found in Carolina. 5. *B. enydris*, has 270 scuta on the belly, and 105 on the tail. The color is a dusky white, and the teeth of the lower jaw very long. It is a native of America. 6. *B. hortulana*, has 290 scuta on the belly, and 128 on the tail. It is of a pale color, interspersed with livid wedge-like spots. It is a native of America. 7. *B. murina*, has 254 scuta on the belly, and sixty-five on the tail. The color of it is a light blue, and round spots on the back. It is a native of America. 8. *B. ophias*, has 281 scuta on the belly, and eighty-four on the tail; the color is nearly the same with that of the constrictor, but browner. 9. *B. scytale* has 250 scuta on the belly, and seventy on the tail. The body is ash-colored and bluish, with round black spots on the back, and black lateral rings edged with white. It is a native of America; and, like the constrictor, though not so long, twists itself about sheep, goats, &c. and swallows them whole. 10. *B. fasciata*; fasciated boa. Plates of the belly 233; of the tail thirty-six. Inhabiting India; color yellow, marked with numerous blue transverse bands, continued at equal distances throughout the whole length of the animal. The bite of this snake is poisonous in a high degree.

BOADICEA, or **VOADICEA**, a valiant British queen in the time of the emperor Nero, wife to Prasutagus, king of the Iceni in Britain, who by will left the emperor and his own daughters his co-heirs, in expectation by that means of procuring Nero's protection for his family; but he was no sooner dead, than the emperor's officers seized all. Boadicea opposing these unjust proceedings, they ordered her to be publicly scourged, and her daughters to be violated by the soldiers. The Britons now took arms, to the number of 120,000, with Boadicea at their head; and made a general and bloody massacre of about 80,000 Romans. The whole province of Britain would have been lost, if Suetonius Paulinus had not hastened from the isle of Mona to London with 10,000 men. A second battle was fought with great valor and doubtful success, till at last victory inclined to the Romans. Boadicea, who had behaved with all the bravery imaginable, either died of chagrin or was poisoned, A.D. 61.

BOAE-ARUM. See **Boa**.

BOANERGES, from **בני רעש**, Syr; a title given by our Saviour to the apostles James and John, and explained by the context, Mark, iii. 17, to signify Sons of Thunder, *οι υιοι του βροντης*. It seems, says Parkhurst, ad. verb. to be the Galilean pronunciation of the Hebrew **בני רעש** properly signifies a violent trembling, a commotion, and may therefore be

well rendered by **βρονη**, thunder, which is a violent commotion in the air. When our Saviour thus named the sons of Zebedee he seems plainly to have had an eye to that prophecy of Hag. i. xi. 6. 'Yet once and I will shake (**מִרְעִישׁ**) the heavens and the earth,' which is applied by the apostle to the Hebrews, xii. 26, to the great alteration made in the economy of religion by the publication of the gospel. The name imports therefore that James and John should be eminent instruments in accomplishing the great change, and should, like thunder or an earthquake, mightily bear down all opposition by their inspired preaching. Parkhurst compares with this title the image used by Virgil, who calls the Scipios. *Æna. vi. 642, duo fulmina belli*.

BOAR, } Sax. *barp*. Dut. *beer*, the male
BOARISH. } swine. Boarish is brutish, savage, vulgar, and cruel.

To fly the *boar*, before the *boar* pursues,
Were to incense the *boar* to follow us.

Shakespeare.

Wherefore to Dover?

GLOU. Because I would not see thy cruel nails
Pluck out his poor old eyes; nor thy fierce sister
In his anointed flesh stick boarish fangs. *Id.*

She sped the *boar* away.

His eyeballs glare with fire, suffused with blood;
His neck shoots up a thickest thorny wood;
His bristled back a trench impaled appears.

Dryden.

BOAR, in zoology. See **Sus**.

BOAR, WILD, among huntsmen, has several names, according to its different ages: the first year it is called a pig of the saunder, the second it is called a hog, the third a hog-steer, and the fourth a boar; when leaving the saunder he is called a singler or sangler. The boar generally lives to twenty-five or thirty years, if he escapes accidents. The huntsmen abroad generally kill the boar with their swords or spears: but great caution is necessary in making the blows; for he is very apt to catch them upon his snout or tusks; and if wounded and not killed, he will attack the huntsman in the most furious manner. The place to give the wound with the spear is either between the eyes in the middle of the forehead, or in the shoulder. When the animal makes at the hunter there is no escape but by courage and address; if he flies he is sure to be overtaken and killed. If he makes doubles and windings he is to be watched very cautiously, for he will attempt getting hold of the spear in his mouth; when nothing can save the huntsman but another person attacking him behind. Were it not for the forks of the boar-spears that make it impossible to press forward upon them, the huntsman who gives the creature his death's wound would seldom escape falling a sacrifice to his revenge. The modern way of boar-hunting is generally to despatch the creature by all the huntsmen striking him at once: but the ancient Roman way was, for a person on foot, armed with a spear, to keep him at bay; and in this case the boar would run of himself upon the spear to come at the huntsman, and push forward till the spear pierced him through. The hinder claws of a boar are called guards. In the corn he is said to feed, in the meadows or fallow-

fields to rout, worm, or fern; in a close to graze. The boar is farrowed with as many teeth as he will ever have; his teeth increasing only in bigness, not in number: among these there are four called tushes, or tusks; the two highest of which do not hurt when he strikes, but serve only to whet the other two lowest, with which the beast defends himself, and frequently kills, as being greater and longer than the rest. Among the Romans boar's flesh was a delicacy; a whole one has been sometimes served up as a dish of state. Sometimes the boar was the military ensign in lieu of the eagle.

BOAR'-SPEAR, *n. s.* From boar and spear. A spear used in hunting the boar.

And in her hand a sharp *boar-spear* she held,
And at her back a bow and quiver gay,
Stuffed with steel-headed darts. *Faerie Queene.*

Eschion threw the first, but missed his mark,
And struck his *boar-spear* on a maple bark. *Dryden.*

BOARD, *v. & n.* } *Ang.-Sax.* brædan.
BOARD'ER, } *Junius and Tooke*, as
BOARD'ING. } quoted by the *Ency.*

Met. agree that 'board, by the omission of the letter *r*, is from broad.' A board is a plank of wood. A table is composed of several of these, and is therefore called a board. To board is to put boards together for a covering, either as a floor, a roof, or a deck of a ship. Boarding is connected with all of these: to get into a ship, either peaceably or by assault, is to get on board. A table, and its entertainment, are both denominated board. Persons sitting at a table to transact business in their corporate capacity, are also termed a board. To board is likewise to be a boarder at the table of another. To make the first attempt upon a man, to surprise him by accosting him. Boarding-house is a house of public, or more private entertainment. Board-wages are wages allowed to servants to supply their own provisions; and boarding-school is a school where the pupils live with the teacher.

With the saw they sundered trees in boards and planks. *Raleigh.*

That we might not part,
As we at first did board with thee,
Now thou would'st taste our misery. *Herbert.*

I boarded the king's ship: now on the beak,
Now in the waste, the deck, in every cabin,
I flamed amazement. *Shakspeare.*

In bed he slept not, for my urging it;
At board he fed not, for my urging it. *Id.*
Sure, unless he knew some strain in me, that I
knew not myself, he would never have boarded me in
this fury. *Id.*

Away, I do beseech you both, away,
I'll board him presently. *Id. Hamlet.*

Soon after which, three hundred lords he slew,
Of British blood, all sitting at his board. *Faerie Queene.*

Whom, thus at gaze, the palmer 'gan to board
With goodly reason, and thus fair bespake. *Id.*

They learn what associates and correspondents
they had, and how far every one is engaged, and
what new ones they meant afterwards to try or board.
Bacon's Henry VII.

I wish the king would be pleased sometimes to be
present at that board; it adds a majesty to it. *Bacon.*

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Whatever Earth, all bearing mother, yields
In India East or West, or middle shore
In Pontus or the Punic coast, or where
Alcinous reigned, fruits of all kinds, in coat
Rough or smooth rined, or bearded husk or shell,
She gathers tribute large, and on the board
Heaps with unsparing hand. *Milton.*

Both better acquainted with affairs, than any other
who sat then at that board. *Clarendon.*

What more than madness reigns,
When one short sitting many hundreds drains;
And not enough is left him to supply
Board-wages, or a footman's livery. *Dryden.*

Now board to board the rival vessels row,
The billows lave the skies, and ocean groans below. *Id.*

May every god his friendly aid afford;
Pan guard thy flock, and Ceres bless thy board. *Prior.*

Our captain thought his ship in so great danger,
that he confessed himself to a capuchin, who was on
board. *Addison.*

A blockhead, with melodious voice,
In boarding-schools can have his choice. *Swift.*

Having thus boarded the whole room, the edges of
some boards lie higher than the next board. There-
fore they peruse the whole floor; and, where they
find any irregularities, plane them off.

Mozon's Mechanical Exercises.

We are several of us, gentlemen and ladies, who
board in the same house; and, after dinner, one of
our company stands up, and reads your paper to us
all. *Spectator.*

BOARD, in gaming, is applied to a machine,
or frame, used in certain games, as a draught-
board, a chess-board, &c.

BOARD, in the language of seamen, admits of
various significations, according to the words
conjoined with it. Thus, 1. A good board; a
ship is said to make a good board when she gets
up much to windward, or advances much at one
tack, and sails upon a straight line. 2. A long
board is when the ship stands a great way off
before she tacks. 3. Board and board is when
two ships come so near as to touch one ano-
ther, or when they lie side by side. 4. A
short board is when she stands off a little. 5.
Back board, the same with *ASTERN*. 6. To
board it up, is to beat it up, sometimes upon
one tack, and sometimes upon another. 7. To
go on board, or to go a-board, signifies to go into
the ship. 8. To make a board is to turn to
windward, and the longer your boards are, the
more you work into the wind. 9. To slip off
the board is to slip down by the ship's side. 10.
Weather board, the windward side.

BOARD OF AGRICULTURE. See *AGRICUL-
TURE.*

The **BOARD OF CONTROL** was first instituted
in 1784, by stat. 24 Geo. III. sess. 2, c. 25, with
a view of directing and aiding the East India
Company, in the executive government of India,
and establishing a power of control in this
kingdom. This board was further established
and regulated by the stat. 33 Geo. III. c. 52,
the operation of which commenced in India on
the 1st of February 1794. By the former act
six persons were to be nominated by the king,
as commissioners for the affairs of India; but by
the latter, the number, instead of being limited to

to six privy-counsellors, is indefinite, depending upon the king's pleasure; of which number the two principal secretaries of state, and the chancellor of the exchequer are to be three; and his majesty, if he pleases, may add to the list two commissioners, not of the privy-council; and the person first named in the king's commission is to be president. The king may give £5000 a year among such of the commissioners as he pleases; which, together with the salary of the secretary and officers, and other expenses of the board, are to be paid by the India Company; the whole not to exceed £16,000 per annum. The members of this board, and their officers, are sworn to execute the several powers and trusts reposed in them, without favor or affection, prejudice or malice. Three commissioners must be present to form a board. The powers of the board are to superintend, direct, and control all acts, operations, and concerns, which relate to the civil and military government, and revenues, of the British territorial possessions in India, subject to certain restrictions. They and their officers are to have access to the papers and records of the Company, and to be furnished with copies or extracts of such of them as shall be required. They are also to be furnished with copies of all proceedings of general courts, and courts of directors, within eight days, and with copies of all despatches from abroad, relating to matters of government or revenue, immediately after their arrival. No orders on these subjects are to be sent by the Company to India, until approved by the board; and when the commissioners vary or expunge any part of the despatches proposed by the directors, they are to give their reasons; and all despatches are to be returned to the court of directors in fourteen days. The directors may state their objections to any alterations, and the commissioners are to re-consider them; and if they interfere with what the directors deem matter of commerce, the directors may apply to the king in council to determine betwixt them. But the board is restricted from the appointment of any of the Company's servants. If the directors, on being called upon to propose despatches on any subject relating to government or revenue, shall fail to do so within fourteen days, the board may originate their own despatches on that subject. The board is not to authorise an increase of salaries, or any allowance or gratuity to be granted to persons employed in the Company's service, except the same shall be first proposed by the Company; and their intention and reasons for such grant are to be certified to both houses of parliament, thirty days before the salary can commence. The directors are to appoint three of their members to be a committee of secrecy, through whom despatches, relating to government, war, peace, or treaties, may be sent to or received from India. This committee, and their clerks, are to be sworn to secrecy. Orders of directors, concerning the government or revenues of India, once approved by the board, are not subject to revocation by the general court of proprietors. See EAST INDIA COMPANY.

BOARD OF GREEN CLOTH, was a court of jus-

tice, formerly held in the counting house of the king's household, for taking cognizance of all matters of government within the court. It had also the authority of preserving the peace for twelve miles round the king's court wherever it should be, excepting at London. It was abolished in 1782.

BOARD OF TRADE, bureau de commerce; an office in the French polity, established in 1723, composed of eight persons of knowledge in arts, commerce, navigation, and manufactures; it was their duty to inspect plans of public advantage; to promote, by liberal rewards, the full and complete disclosure of discoveries in the arts, and manufactures; and thus to facilitate the circulation of useful facts, in every channel of industry.

The BOARD OF TRADE AND PLANTATIONS was established in England by king William III., for settling all disputes and regulations relating to commerce and colonies. Before this time matters of commerce had been generally referred to a fluctuating committee of the privy council. A permanent board was now therefore established, but finally abolished in 1780.

BOARD-WAGES, a certain annual or stipulated sum allowed to household servants for maintenance. Board-wages, granted to the menial officers and servants of the crown, commenced in 1629, when the necessities of king Charles obliged him to retrench the expense of his household, by abolishing the greatest part of the daily tables in his palace, eighty in number, and substituting a fixed allowance in their room.

BOARDING, in a naval engagement, a desperate and furious assault made by the men of one ship on those of another. It may be performed in different places of the ship, according to their circumstances and situation, by the assailant detaching a number of men armed with pikes, pistols, cutlasses, &c. on the decks of his antagonist. This, however, is rarely attempted by king's ships, which generally decide the combat without grappling; but it is often practiced by privateers, who, bearing down on their opponent's quarter or broadside, drop a shell from the bowsprit, which projects over the enemy's deck, and, in the midst of the confusion thus occasioned, rush aboard, and easily overpower all opposition.

BOARDING-PIKE, a pike made use of in boarding ships during an engagement.

BOARIA LAPPÄ, or LAPPÄGO, a name given by the ancient Romans to the fruit or rough balls of the common aparine or cleavers. Pliny calls it lappæ boariæ, or lappæ caninæ, and sometimes canariæ.

BOARULA, in ornithology, a species of motacilla, called in England the gray wagtail. The color of this bird is cinereous above, yellow beneath; tail-feathers dark, and pale at the edges. This is an European bird, and, like the rest of the wagtail tribe, frequents watery places.

BOAS, in entomology, a species of scarabæus, inhabiting Sierra Leone. Thorax retuse, excavated, bidentated; horn of the head recurved and simple.

BOAST', *v. & n.* } Cotgrave derives it from
 BOAST'ER, } the French *bosse*, which he
 BOAST'FUL, } explains, swollen; risen;
 BOAST'ING, } puffed up. Any thing
 BOAST'INGLY, } raised on a surface, and
 BOAST'IVE, } which is itself hollow, and
 BOAST'LESS, } without substance; some-

thing tumid and inflated. This at once gives us the origin and the meaning of the word in its general acceptation. To boast is to swell above our natural dimensions; is to be the subject of a moral disease, which, as it increases in magnitude, diminishes the health and vigor of the patient. A boaster is a self-complacent manufacturer of lies to set off his own imaginary greatness; who forms a very exaggerated estimate of himself, and labors to deceive others on the same subject, and to the same amount; used, as it sometimes is, in the sense of glorying in others, it is not reprehensible.

Let not him that putteth on his harness, *boast* himself as he that putteth it off. *Kings'.*

Confounded be all them that serve graven images, that *boast* themselves of idols. *Psalms xlvii. 7.*

They that trust in their wealth, and *boast* themselves in the multitude of their riches. *Psalms xlix. 6.*

Thus with your mouth you have *boasted* against me, and multiplied your words against me. *Ezek. xxxv. 13.*

Thou, that makest thy *boast* of the law, through breaking the law dishonourest thou God? *Romans ii. 23.*

For I know the forwardness of your mind, for which I *boast* of you to them of Macedonia. *1 Cor. ix. 2.*

For if I have *boasted* any thing to him of you, I am not ashamed. *2 Cor. vii. 14.*

And is the *boast* of that proud ladies' threat, That menaced me from the field to beat, Now brought to this? *Spenser.*

My sentence is for open war: of wiles, More unexpert I *boast* not: then let those Contrive who need, or when they need, not now. *Milton.*

The spirits beneath, Whom I seduced, *boasting* I could subdue The? Omnipotent. *Id.*

Neither do the spirits damned Lose all their virtue, lest bad men should *boast* Their specious deeds. *Id.*
 If they vouchsafed to give God the praise of his goodness; yet they did it only, in order to *boast* the interest they had in them. *Atterbury.*

We look on it as a pitch of impiety, *boastingly* to avow our sins; and it deserves to be considered, whether this kind of confessing them, have not some affinity with it. *Decay of Piety.*

No more delays, vain *boaster*! but begin! I prophecy beforehand I shall win: I'll teach you how to brag another time. *Dryden.*

He the proud *boasters* sent, with stern assault, Down to the realms of night. *Philips.*

Boastful, and rough, your first son is a squire; The next a tradesman, meek, and much a liar. *Pope.*

Not Tyro, nor Mycene, match her name, Nor great Alcmena, the proud *boasts* of fame. *Id.*

The world is more apt to find fault than to commend; the *boast* will probably be censured, when the great action that occasioned it is forgotten. *Spectator.*

The *boast* of heraldry, the pomp of power,
 And all that beauty, all that wealth e'er gave,
 Await, alike the' inevitable hour;
 The paths of glory lead but to the grave.

Gray's Elegy.

Kingdoms, by thee to sickly greatness grown,
 Boast of a florid vigour not their own.

Goldsmith. Deserted Village.

BOAT', } From the Germ. *batten*; to
 BOAT'MAN, } thrust; to dash; to drive along.
 BOAT'SWAIN, } So says Wachter, as quoted by
 BOAT'LIKE, } the Ency. Met. Ang.-Sax.
 BOAT'WISE, } bate or bat. This derivation

refers more to the manner of conducting this species of vessel through the water, than to the nature of the thing itself. But perhaps that which distinguishes a boat from all other nautical craft, is its comparative diminutiveness, and its being impelled along by oars rather than by sails filled with wind. Yet the boatswain is an officer that is not required in such boats, at least according to the present duties allotted to that personage. Formerly the servant, the swain or swein, who managed the oars, received this appellation.

I do not think that any one nation, the Syrian excepted, to whom the knowledge of the ark came, did find out at once the device of either ship or *boat*, in which they durst venture themselves upon the seas.

Raleigh's Essays.

Where the remote Bermudas ride
 In the' ocean's bosom unespied;
 From a small *boat* that rowed along,
 The listening winds received this song.

Marvell.

Boatmen through the crystal water show,
 To wondering passengers, the walls below.

Dryden.

That booby Phaon only was unkind,
 An ill-bred *boatman*, rough as waves and wind.

Prior.

Sometimes the meanest *boatswain* may help to preserve the ship from sinking.

Houell's Preeminence of Parliament.

Reef topsails, reef, the *boatswain* calls again.

Falconer's Shipwreck.

Hark to the *boatswain's* call, the cheering cry!
 While through the seamen's hands the tackle glides.
Byron.

Another morn—another bids them seek,
 And shout his name till echo waxeth weak;
 Mount—grotto—cavern—valley searched in vain,
 They find on shore a sea-*boat's* broken chain—
 Their hope revives. *Byron. Corsair.*

BOATS. The construction, machinery, and even the names of boats, are very different, according to the various purposes for which they are calculated, and the services on which they are to be employed. Thus they are occasionally slight or strong, sharp or flat-bottomed, open or decked, plain or ornamented; as they may be designed for swiftness or burden, for deep or shallow water, for sailing in a harbour or at sea, and for convenience or pleasure.

The *Long-Boat* is the largest boat that usually accompanies a ship, is generally furnished with a mast and sails, and may be armed and equipped for cruising short distances, against merchant-ships of the enemy, or smugglers, or for impressing seamen, &c.; her principal employ, however, is to bring heavy stores or provisions

on board, and also to go up small rivers to fetch water, wood, &c.

The *Launch* is a boat which of late years has greatly superseded the use of the long boat; it is longer, more flat-bottomed, and, by rowing a greater number of oars, is better adapted for going up narrow and shallow rivers. See the article *LAUNCH*.

The *Barge* is a long, narrow, light boat, employed to carry the principal sea-officers, as admirals, and captains of ships of war, on shore, and are very unfit for sea. See the article *BARGE*.

A *Pinnace* resembles a barge, but is smaller, never rowing more than eight oars; whereas, a barge never rows less than ten. The pinnace is for the accommodation of the lieutenants, &c.

The *Cutters of a ship* are broader, deeper, and shorter, than the barge or pinnace; they are fitter for sailing, and commonly employed in carrying light stores, provisions, passengers, &c. to and from the ships. In the structure of this sort of boats, the lower edge of every plank in the side over-lays the upper edge of the plank below it, which is called *clinch-work*. They are generally rowed with six oars, sometimes only with four; in which case they are termed *jolly-boats*.

Yawls are something less than cutters, nearly of the same form, and used for similar services. Of all the small boats, a Norway yawl seems to be the best calculated for a high sea, as it will often venture out to a great distance from the coast of that country, when a stout ship can hardly carry any sail.

A *Gig* is a long narrow boat used for expedition, generally rowed with six or eight oars, and is mostly the private property of the captain or commander.

The *Jolly-Boat* is a smaller boat than a yawl, kept on board ships for going on shore, and other light work.

The above more particularly belong to ships of war; as merchant-ships seldom have more than two, viz. a long boat and a yawl; when they have a third it is generally calculated for the countries to which they trade, and varies in its construction accordingly.

A *Wherry* is a light sharp boat, used in a river or harbour for carrying passengers from place to place. The wherries allowed to ply about London, are either scullers, which means a single person with two oars, or two persons rowing with each an oar. The Portsmouth wherries are built broader and larger than those on the Thames, and allowed to be a very safe description of boats, and will often keep the sea when those of a larger class are obliged to run into port: they have frequently been known to cross the channel to France with safety, at different seasons of the year, and seldom meet with any accident.

A *Punt* is a sort of oblong flat-bottomed boat, nearly resembling a floating stage used by shipwrights and calkers, for breaching, calking, or repairing a ship's bottom, and is chiefly used for one person to go on shore in from small vessels. It is also frequently used to go after wild-fowl during the winter season, when they

hover about the coasts. The boatman is furnished with a long musket, fixed in the bow of the boat, and generally steers with a scull in the stern, while he lays on his back in the bottom of the boat; he takes the advantage of the tide to go down on the birds, and fires, without taking any particular aim, as the flock are rising out of the water, by which means he frequently brings down a great many.

A *Moses* is a flat-bottomed boat, used in the West Indies for bringing off hogsheds of sugar from the sea-beach to the shipping which are anchored in the roads, and is termed single or double according to its size.

A *Felucca* is a large and strong passage-boat, used in the Mediterranean, having from ten to sixteen banks of oars. The natives of Barbary often employ boats of this sort as cruisers.

The Society of Arts voted the gold medal in the year 1807 to Mr. Christopher Wilson, Richard Street, Commercial Road, London for a secure sailing-boat, which is described in Vol. XXV. of the Society's Transactions as Mr. Wilson's Neutral-built-self-balanced-boat.

Mr. Wilson claims two distinct improvements, viz. the neutral mode of building, and the application of the hollow sides or balance bodies. The first of these improvements relates to boats, barges, &c. in general; the other to such boats only as are designed for despatch, safety, or pleasure. But with respect to these claims, it is but justice to state, that he has been anticipated in them both. Mr. Boswell, to whom the navy is much indebted for many useful hints, had a boat built in June 1803, the internal framing of which was precisely the same as in that of Mr. Wilson's; and the only difference was, that, instead of having slips laid on the inside of the seams with blair or other calking, they were rivetted on without, and the seams calked. This boat was exhibited in London, and a description of it published in No. LXII. of the Repertory of Arts, New Series, &c. The second improvement claimed by Mr. Wilson, is essentially the same as that for which Mr. Lionel Lukin obtained a patent in the year 1785, the specification of which was published in the Repertory of Arts, Vol. III. First Series.

The difficulties and danger of passing a bar in stormy weather, and of landing troops on a beach, when there is much surf, or a great swell, have given rise to various experiments, to prevent boats being swamped or stove; and among others, that of applying air trunks to boats built in the common way, agreeably to a plan lately proposed to the admiralty by Vice Admiral Hunter, who, after forty years experience in different parts of the world, strongly recommends it as the very best possible method yet thought of, to prevent boats sinking in case of being struck by a heavy sea, or filled in going through a surf. This plan is simple and practicable for preventing the loss of lives when a boat is sent from her ship in bad weather; or when troops are to be carried in boats through broken water, which may occasion their shipping enough to fill or swamp the boat in deep water; and the Admiral is of opinion, that if every ship, whether in his Majesty's or merchant's service, were to have at all

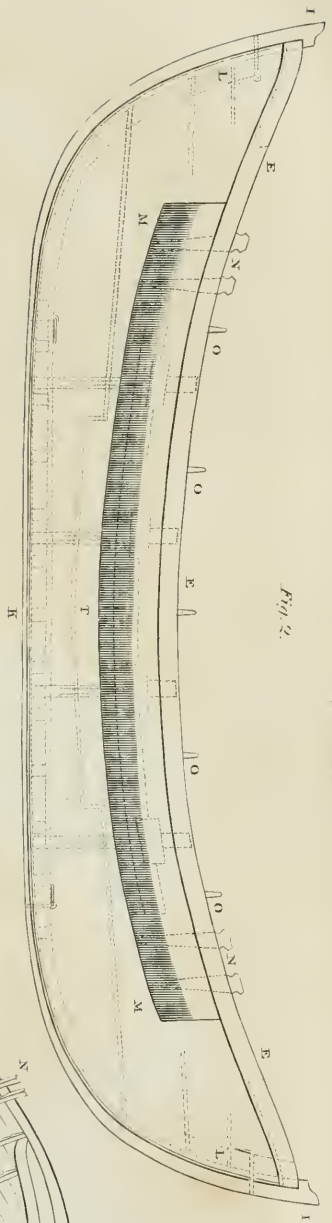


Fig. 2.

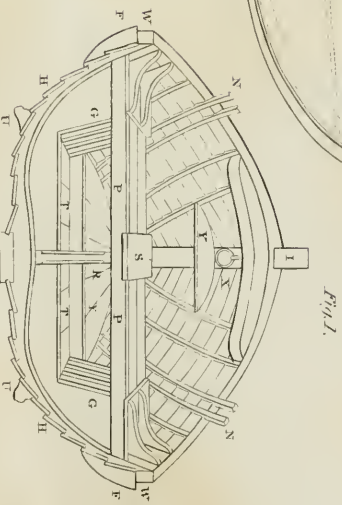


Fig. 1.

Fig. 5.

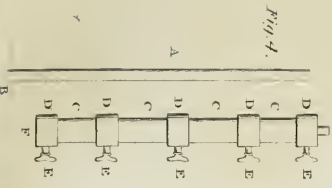


Fig. 4.

Fig. 3.

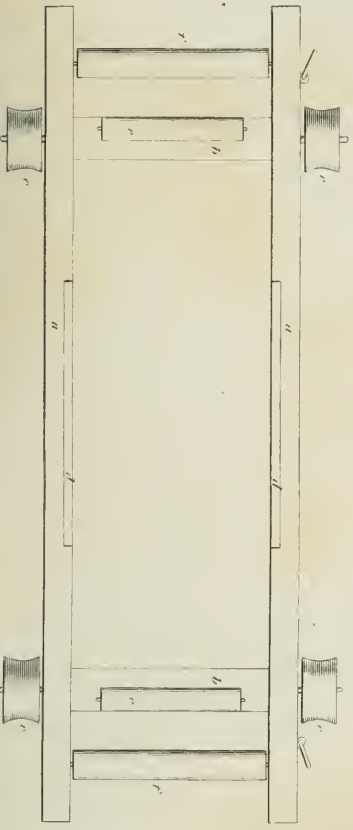


Fig. 6.

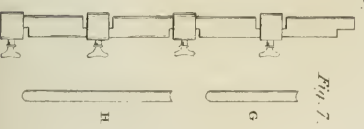


Fig. 7.

times a set of these trunks ready to apply, when they have occasion to use their boats in bad weather, many valuable lives would be saved.

To those acquainted with the force of a heavy sea, it must appear much more difficult to prevent a boat from being stove, than from being sunk. A mechanic has suggested that a much greater degree of stability might be given to our common boats or small vessels, and that they might be made to resist the shock of the waves, by diminishing their centre of gravity at the instant such a measure was found necessary, which would greatly augment their general gravity and resistance. He proposes, that in the vertical plane of the boat's centre of gravity, there be placed a rod of iron, formed of several fillets of the same metal: at the extremity of this rod let there be fixed a weight of iron or lead, the specific gravity of which may be in proportion to the effect required to result from it. When there is no occasion for employing this weight, it might be contained in a place made in the bottom, or keel, of the vessel, which part might be easily appropriated for that purpose, without the weight occasioning any embarrassment or friction.

The rod might be secured by an apparatus very easily made; and it might be provided with teeth, by which it could be manœuvred by a crane, by means of a single handle; the weight might be made to descend to the depth of eighteen, twenty, or twenty-four inches, beneath the lower plane of the keel; and it will appear evident that the descent of this weight must cause a difference in the power of the boat's resistance against the efforts of the waves. See the *LIFE BOAT*, below.

Trim the BOAT, is an order to sit in the boat in such a manner as that she shall float upright in the water, without leaning to either side.

To bale the BOAT is to throw or scoop out the water that may have got in her bottom, by leakage or otherwise.

Moor the BOAT, is an order to fasten a boat with two ropes, so as that the one shall counteract the other, and keep her in a steady position.

BOAT'S CREW are the men appointed to man any particular boat, as the barge's crew, cutter's crew, &c.

BOAT, LIFE. The life-boat is a modern invention of the utmost consequence to the lives and safety of seafaring persons.

The construction of a boat for the preservation of lives from ships driven on the shores of this kingdom, was originally suggested by the subscribers to the News Room at the Law House, South Shields, in 1789; who, from situation, were the more immediate spectators of the destruction inevitably attending vessels and their crews coming on the sand at the south entrance of Tynemouth Haven.

In September, 1789, the ship *Adventure*, of Newcastle, was stranded on the Herd Sands, on the south side of Tynemouth Haven, in the midst of the most tremendous breakers; and all the crew dropped from the rigging, one by one, in the presence of thousands of spectators; not one of whom could be prevailed on by any reward

to venture out to her assistance in any boat of the common construction. On this melancholy occasion the gentlemen of South Shields called a meeting of the inhabitants, and premiums were instantly offered for plans of a boat which should be the best calculated to brave the dangers of the sea, particularly of broken water. Many proposals were accordingly offered, but the preference was given unanimously to Mr. Greathead's, who was immediately directed to build a boat at the expense of the committee. This boat went off on the 30th of January, 1790, and so well has it answered, and even exceeded, every expectation, in the most tremendous sea, that during the last twenty-five years not less than 300 lives have been saved at the entrance of the Tyne alone, which otherwise must have been lost.

The principle of Mr. Greathead's boat appears to have been suggested by the following simple fact:—Take a spheroid, and divide it into quarters; each quarter is elliptical, and nearly resembles the half of a wooden bowl, having a curvature with projecting ends; this, thrown into the sea or broken water, cannot be upset or lie with the bottom upwards. The length of the boat is thirty feet; the breadth ten feet; the depth, from the top of the gunwale to the lower part of the keel in midships, three feet three inches; from the gunwale to the platform (within), two feet four inches; from the top of the stems (both ends being similar) to the horizontal line of the bottom of the keel, five feet nine inches. The keel is a plank of three inches thick, of a proportionate breadth in midships, narrowing gradually towards the ends, to the breadth of the stems at the bottom, and forming a great convexity downwards.

The stems are segments of a circle, with considerable rakes. The bottom section, to the floor-heads is a curve fore and aft, with the sweep of the keel.

The floor timber has a small rise curving from the keel to the floor-heads. A bilge plank is wrought in on each side, next the floor-heads, with a double rabbet or groove, of a similar thickness with the keel; and on the outside of this are fixed two bilgetrees, corresponding nearly with the level of the keel.

The ends of the bottom section form that fine kind of entrance observable in the lower part of the bow of the fishing-boat called a coble, much used in the North. From this part to the top of the stem it is more elliptical, forming a considerable projection.

The sides, from the floor-heads to the top of the gunwale, flaunch off on each side, in proportion to above half the breadth of the floor. The breadth is continued far forwards towards the ends, leaving a sufficient length of straight side at the top. The sheer is regular along the straight side, and more elevated towards the ends. The gunwale fixed to the outside is three inches thick. The sides, from the under part of the gunwale, along the whole length of the regular sheer, extending twenty-one feet six inches, are cased with layers of cork to the depth of sixteen inches downwards; and the thickness of this casing of cork being four inches, it projects at the top a little without the gunwale. The cork

on the outside is secured with thin plate, or slips of copper, and the boat is fastened with copper nails.

The thwarts, or seats, are five in number, double banked; consequently, the boat may be rowed with ten oars.

The thwarts are firmly stanchioned. The side oars are short, with iron tholes and rope gromets, so that the rower can pull either way. The boat is steered with an oar at each end; and the steering oar is one-third longer than the rowing oar.

The platform placed at the bottom, within the boat, is horizontal, the length of the midships, and elevated at the ends for the convenience of the steersman, to give him a greater power with the oar. The internal part of the boat, next the sides, from the under part of the thwarts down to the platform, is cased with cork; the whole quantity of which, affixed to the life-boat, is nearly seven hundred weight. The cork indisputably contributes much to the buoyancy of the boat, is a good defence in going along-side a vessel, and is of principal use in keeping the boat in an erect position in the sea, or rather for giving her a very lively and quick disposition to recover from any sudden cant or lurch, which she may receive from the stroke of a heavy wave. But, exclusively of the cork, the admirable construction of this boat gives it a decided pre-eminence. The ends being similar the boat can be rowed either way, and this peculiarity of form assists her in rising over the waves. The curvature of the keel and bottom facilitates her movement in turning, and contributes to the ease of the steerage, as a single stroke of the steering oar has an immediate effect, the boat moving as upon a centre. The fine entrance below is of use in dividing the waves, when rowing against them; and, combined with the convexity of the bottom, and the elliptical form of the stem, admits her to rise with wonderful buoyancy in a high sea, and to launch forward with rapidity, without shipping any water, when a common boat would be in danger of being filled. The flaunching or spreading form of the boat, from her floor-heads to the gunwale, gives her a considerable bearing; and the continuation of the breadth well forward, is a great support to her in the sea; and it has been found, by experience, that boats of this construction are the best sea-boats for rowing against turbulent waves.

The internal shallowness of the boat from the gunwale down to the platform, the convexity of the form, and the bulk of cork within, leave a very diminished space for the water to occupy; so that the life-boat, when filled with water, contains a considerable less quantity than the common boat, and is in no danger either of sinking or upsetting.

It may be presumed by some, that in cases of high wind, agitated sea, and broken waves, a boat of such bulk could not prevail against them by the force of oars; but the life-boat, from her peculiar form, may be rowed a-head, when the attempt in other boats would fail. Boats of the common form, adapted for speed, are of course put in motion with a small power; but for want of buoyancy and bearing, are over-run by the

waves and sunk, when impelled against them; and boats constructed for burden meet with too much resistance from the wind and sea when opposed to them, and cannot, in such cases, be rowed from the shore to a ship in distress.

Mr. Greathead gives the following instructions for the management of the life-boat:—The boats in general of this description, are painted white on the outside; this color more immediately engaging the eye of the spectator, when rising from the hollow of the sea, than any other. The bottom of the boat is at first varnished (which will take paint afterwards), for the more minute inspection of purchasers. The oars she is equipped with are made of fir of the best quality; having found, by experience, that a rove ash oar, that will dress clean and light, is too pliant among the breakers; and when strong and heavy, from rowing double-banked, the purchase being short, sooner exhausts the rower; which renders the fir oar, when made stiff, preferable.

In the management of the boat she requires twelve men to work her; that is, five men on each side, rowing double-banked, with an oar slung over an iron thole, with a gromet (as provided), so as to enable the rower to pull either way, and one man at each end to steer her, and to be ready at the opposite end to take the steer oar when wanted. As, from the construction of the boat, she is always in a position to be rowed either way, without turning the boat: when manned the person who steers her should be well acquainted with the course of the tides, in order to take every possible advantage; the best method, if the direction will admit of it, is to head the sea.

The steersman should keep his eye fixed upon the wave or breaker, and encourage the rowers to give way as the boat rises to it, being then aided by the force of the oars, she launches over it with vast rapidity, without shipping any water. It is necessary to observe, that there is often a strong reflux of sea, occasioned by the stranded wrecks, which requires both dispatch and care in the people employed, that the boat be not damaged. When the wreck is reached, if the wind blows to the land, the boat will come in shore without any other effort than steering.

The particular construction of this boat will be best understood by referring to our plate, LIFE-BOAT, where fig. 1, represents a cross section of the boat.

F F, the outside coatings of cork.

G G, the inside cork filling.

II II, the outside planks of the boat.

J, one of the stems of the boat.

K, the keel.

N N, the timber-heads.

R, the thwarts, or rowers's seats.

S, one of the stanchions under the thwarts, each being thus firmly supported.

S, a section of the gang-board, which crosses the thwarts, and forms the passage from one end of the boat to the other.

T, the floor-heads, or platform for the rower's feet.

U U, the two bilge pieces, nearly level with the keel.

w w, the gunwales.

x, a ring-bolt for the head-fast, there being another also at the other end.

y, platform for the steersman.

Fig. 2 is a Longitudinal Section of the Life Boat.

E E E, the sheer or curve of the boat.

I I, the two sterns or ends.

K, the keel.

L L, the aprons, to strengthen the stems.

M M, the sheets, or place for passengers.

N N, timber-heads or boat-fastenings.

O O O O, the tholes, on which the oars are hung by gromets.

T, the flooring under the rowers' feet.

Fig. 3. Plan of a Truck or Carriage, with four Wheels, to convey the Boat to and from the Sea.

a, an oblong frame of wood, consisting of two long pieces, hollowed a little, to admit the body of the boat, and secured by the cross-pieces, b b.

c c c c, four low wheels, each sunk or hollowed in the middle, to run better upon a rail-way or timber-road.

d d, two indents made in the side-timbers, that the bottom of the boat may be firm therein.

e e, two small rollers, movable in the cross-timbers, for the keel of the boat to slide upon.

f f, two long rollers, one at each end of the frame, to assist in raising the boat upon, or sliding it off, the truck or carriage.

Fig. 4. A, the copper bolt, with one end entered into the wood previous to fixing the tube.

B, a piece of timber or ship's side, into which the bolt is intended to be driven.

Fig. 5. c c c c, the parts of the iron tube fastened together, ready to be put on the bolt A.

D D D D, iron or brass rings, with thumb-screws placed over the joints of the tube, to hold them firm together.

E E E E, the thumb-screws, which keep the rings and tube firm in their proper places.

F, two points formed on the lower ring; they are to stick into the timber, and to enable the tube to be held firm in its place.

Fig. 6. Shows the separation of the parts of the tube, which is effected by slackening the thumb-screws and rings. To put them together, you slide the rings over the joints, placed as close as possible; then, by tightening the thumb-screws, you will have them firm together, and may continue the tube to any length, from one foot to whatever number is required.

Fig. 7. G H, two steel punches or drifts, to be placed on the head of the copper bolt, within the tube, whilst driving. The blow given upon the punch drives forward the bolt. The shortest of them should be used first, and, when driven nearly to its head, should be taken out of the tube and the longer punch applied in its place.

The life-boat is generally kept in a boat-house close to the beach, where it rests on four low wheels, or trucks, concave, for rolling on oars or spars laid on the sand, so as to run out at a moment's notice. But, where the way over which she must be dragged is rough, and the safety of her frame would be endangered, another expedient is adopted. This consists of two wheels, twelve feet in diameter, with a movable

arched axis, to which a pole is fixed for a lever. The boat is suspended between the wheels, under the axis; towards each extremity of which is an iron pin. When the pole is perpendicularly elevated, the upper part of the axis becomes depressed, and a pair of rope slings encompassing the boat, being fixed to the iron pins, she is raised with great facility by means of the pole, which is then fastened down to her stern. There are commonly two crews, each consisting of twelve men, employed to navigate the life-boat, to whom rewards are distributed according to the success of their enterprise.

On the first alarm of a vessel in danger, the life-boat immediately puts to sea; when some experienced steady person takes the command. Her head should be kept to the sea, and she must possess an accelerated velocity to meet the wave. Great caution is to be observed in approaching a wreck, where the reflux of the waves is often productive of danger, and it is considered safest to go to the lee quarter. This, however, depends on circumstances. See *Greathead's Report of the Evidence respecting the Invention of the Life-Boat*.—*Transactions of the Society of Arts*, Vol. X. XX. and XXV.

After the value of the invention had been acknowledged by the presentation of a gold medallion to Mr. Greathead, by the Society of Arts, as also one by the Royal Humane Society, and various gratuities in money, Parliament, on the 9th of June 1802, unanimously voted him £1200. The committee of Underwriters, likewise, at Lloyd's Coffee-house in London, having voted Mr. Greathead 100 guineas, appropriated £2000 of their funds for the purpose of encouraging the building of life-boats on different parts of the coasts of the kingdom. Life-boats have been sent from Britain, on the order of the Emperor of Russia, who signified his approbation by presenting the inventor with a diamond ring, and by the Kings of Prussia, Denmark, and those of other states.

Previous to Mr. Greathead's invention, a patent was granted to Mr. Lionel Lukin, a coach-maker in London, for 'an improvement in the construction of boats and small vessels, which will neither sink nor upset.' The essence of the invention rests on the propriety and practice of out riggers, well known to the natives of the South Sea Islands. Projecting gunwales are built to vessels of the ordinary construction, sloping from the top of the common gunwale towards the water, so as not to interrupt the oars in rowing; and from the extreme projection returning to the side in a faint curve, at a suitable distance above the water-line. These projecting gunwales are very small at stem and stern, and gradually increase to the requisite dimensions: and they may either be solid, consisting of light substances, of cork, or hollow. In the inside of the vessel at stem and stern, and at the sides where projecting gunwales are unnecessary, as also under the seats and thwarts, are to be enclosures or bulk-heads, water-tight, or filled with substances specifically lighter than water. 'By this means,' the inventor observes, 'the boat or vessel will be so much lighter than the body of the water it must displace in sinking,

that it will with safety carry more than its common burden, though the remaining space should by any accident be filled with water.' To give stability to the vessel, the inventor further proposes to affix a false keel of cast iron or other metal along the centre of the real one. The patent granted to Mr. Lukin is dated in 1785. It has not been discovered that he obtained any honorary reward for his invention; but, in the year 1807, a gold medal was voted by the Society for the Encouragement of Arts, to Mr. Christopher Wilson, for a secure sailing-boat, or life-boat, which is balanced exactly according to Mr. Lukin's device, by empty projecting gunwales. For a particular description of this boat, which is called the neutral-built self-balanced boat, see the article *BOAT*.

Captain G. W. Manby, of the Royal Navy, has observed in his Essay on the Preservation of shipwrecked Persons, that the simplest method of giving the properties of preservation to any boat, is to well lash empty casks securely to it, so as to give it buoyancy; and, for the advantage of keeping it in an upright position, when launching from a flat shore or beaching, it should have bilge boards of equal depth with the keel, which likewise resists its upsetting; and a stout projecting rope, with swellings upon it, surrounding its gunwale, would serve as a fender to prevent its being stove. See the article *SHIPWRECK*.

Metallic Life-Boat. A metallic life-boat, on pneumatic and hydrostatic principles, that will neither sink nor upset, yet serve all the ordinary purposes of ships' boats, either for rowing or sailing was lately tried at London-bridge, on the ebb-tide, during the time of the greatest fall, with her crew on board, and filled with water; when she passed through with the greatest safety, and discharged a considerable portion of the water purposely put into her. These life-boats are described as being made of malleable iron, lead, and tin; one of twenty feet long and six feet wide, drawing only ten inches water, with twenty-five persons; and possessing valves that, without pumping or personal aid, discharge all the water from them; which valves act occasionally as pneumatic or air valves: they are hydrostatically ballasted with confined water, taken in or put out at pleasure; and are remarkably buoyant and lively in agitated water.

BOAT, TO BALE, or FREE THE BOAT, in navigation, is to fling out the water. To find the boat is to save her from beating against the sides of the ship. To moor the boat, to fasten it with ropes. To trim the boat is to keep her even. To wind the boat is to bring her head about.

BOAT-BILL. See *CANCROMA*.

BOAT-FLY, notonecta, a water insect, whose back is shaped like the bottom of a boat; the hind legs, which are thrice as long as the fore, aptly enough resembling a pair of oars. Accordingly, contrary to all other creatures, he swims, says Moutet, on his back. See *NOTONECTA*.

BOAT-HOOK, an iron hook, with a sharp point on the hinder part of it, fixed on a long pole, used in bringing it to, or pushing it from any other boat, ship, &c.

BOATION. Lat. *boare*. The roar or bel-

lowing of an ox: any roaring, or loud sounding noise.

BOAT-ROPE, the rope by which the boat is fastened to the stern of the ship.

BOATSWAIN, an officer on board a ship, who has charge of all her rigging, ropes, cables, anchors, sails, flags, colors, pendants, &c. He also takes care of the long-boat and its furniture, and steers her either by himself or his mate. He calls out the several gangs and companies to the execution of their watches, works, and spells; and he is also a kind of provost-marshal, seizes and punishes all offenders that are sentenced by the captain or court-martial of the whole fleet. It is the duty of the boatswain particularly to direct what relates to the rigging of a ship, after she is equipped from a royal dock-yard. He ought to take care that the blocks and running ropes are regularly placed, so as to answer the purposes for which they are intended; and that the sails are properly fitted to their yards and stays, well furled or reefed when occasion requires. It is likewise his office to assist with his mates in the necessary business of the ship, and to relieve the watch when it expires; and he is ordered by his instructions to perform his duty with as little noise as possible.

BOATSWAIN'S MATE has the peculiar command of the long-boat, for the setting forth of anchors, weighing or fetching home an anchor, warping, towing, or mooring; and is to give an account of his store.

BOAZ, the son of Salmon, by Rahab the harlot, of Jericho, the second husband of Ruth, and great grandfather of David. Also a name given by Solomon to one of the principal pillars of the temple.

BOB', v. & n. } Of uncertain etymology.
BOB'CHERRY, } Skinner deduces it from Span.
BOB'TAIL, } *bobo*, foolish. A bob formerly
BOB'WIG. } signified a mock or jeer. It
 is now usually applied to any short jerking action. The verb also means to cut, as a cut tail is a bobtail; to beat, to drub, to bang; to play backwards and forwards; to play loosely against any thing; any thing pendant, which when stirred by the air, or any other motion, dangles, and jerks to and fro. Shakspeare and L'Estrange employ it in the sense of cheating, and gaining by fraud. Bob is a technical term used among ringers.

Wete ye not wher stondesth a litel toun,
 Which that ycleped is *bob-up-and-down*,
 Under the blec in Canterbury way.

Chaucer. Canterbury Tales.

I am sharply taunted, yea sometimes with pinches,
 nips, and bobs. *Ascham's Schoolmaster.*

Those bastard Britons whom our fathers
 Have in their own land beaten, *bobbed*, and thumped.
Shakspeare.

Avaunt you curs!

Be thy mouth or black or white,
 Or *bobtail* tike, or trundle tail,

Tom will make him weep and wail. *Id.*
 I have *bobbed* his brain more than he has beat my
 bones. *Id.*

Live Roderigo,

He calls me to a restitution large,
 Of gold and jewels that I *bobbed* from him,
 As gifts to Desdemona. *Id.*

There was a *bobtailed* cur cried in a gazette,
and one that found him brought him home to his
master. *L'Etrange.*

You may tell her,
I'm rich in jewels, rings, and *bobbing* pearls,
Plucked from Moors' ears. *Dryden.*

The gaudy gossip, when she's set agog,
In jewels drest, and at each ear a *bob*. *Id.*

Bobcherry teaches at once two noble virtues, pa-
tience and constancy; the first, in adhering to the
pursuit of one end; the latter, in bearing a disap-
pointment. *Arbutnot and Pope.*

A young fellow riding towards us full gallop, with
a *bobwig* and a black silken bag tied to it, stopt short
at the coach, to ask us how far the judges were be-
hind. *Spectator.*

When Tom to Cambridge first was sent,
A plain brown *bob* he wore;
Read much, and looked as though he meant
To be a fop no more. *Shenstone.*

BOBARTIA, in botany, a genus of the di-
gynia order, and triandria class of plants; rank-
ing in the natural method under the fourth
order gramina, *CAL.* imbricated: *COR.* a bivalve
glume, above the receptacles of the fruit. Of
this genus there is only one species known, which
is a native of the Indies.

BOB'BIN. *Fr. bobine.* A quill for a spin-
ning wheel; also a skain of gold or silver thread.
—*Cotgrave.*

I'm sure I always loed consign Con's hazle eyes,
and her pretty long fingers, that she twists this way
and that, over the haspicalls like a parcel of *bobbins*.
Goldsmith.

BOBBING, among fishermen, a manner of
catching eels, thus performed: scour well some
large worms, and with a needle run a twisted
silk through them from end to end, taking so
many as that they may wrap about a board a dozen
times at least: then tie them fast with the two
ends of the silk, which done, fasten all to a strong
cord, and fix on a plummet about three-quarters
of a pound weight, and make the cord fast to a
strong pole. Let this lie at the bottom till you
feel the eels tug lustily at the bait, and when
they have swallowed it sufficiently, gently draw
up the rope to the top, and bring them ashore.

BOBBINS are turned in the form of a cy-
linder, with a little border jutting out at each
end, bored through to receive a small iron pivot.
They serve to spin with the spinning-wheel, or
to wind worsted, hair, cotton, silk, gold, and
silver.

BOBILEE, a town and fortress of Hindostan,
in the circar of Cicacole, famous for sustaining
an attack of the French in 1757, under M.
Bussy. The fortress, which was of a square
form, extended about 200 feet on each side. The
rampart and parapet were covered by a shed of
strong thatch, supported by posts; the eaves of
this shed projecting over the battlement, and af-
fording shelter to those on the rampart, which it
guards against the sun and rain. An area of
500 yards or more, in every direction round the
fort, is preserved clear, of which the circum-
ference joins the high wood, which is kept thick,
three or four miles in breadth, around this
centre. Few of these forts permit more than
one path through the woods, which is com-

manded at every turn by breast-works. The en-
trance of the path from without is defended by a
wall exactly similar in construction and strength
to one of the sides of the fort; having its round
towers at the ends, and the square projection in
the middle.

Such were the defences of Bobilee, which will
serve as a general specimen of the Indian po-
lygar forts, against which M. Bussy marched
with 750 Europeans, of whom 250 were horse,
four field-pieces, and 11,000 peons and sepoys,
the army of Vizeram Rauze, who commanded
them in person.

'The attack commenced,' says Mr. Hamilton,
'at break of day on the 24th of January, 1757,
with the field-pieces against the four towers; and
by nine o'clock several of the battlements were
broken. All the leading parties of the four di-
visions then advanced at the same time with
scaling ladders; but, after much endeavour for
an hour, not a man had been able to gain the
rampart, and many had fallen wounded. Other
parties followed with little success, until all were
so fatigued, that a cessation was ordered; during
which the field-pieces, having beaten down more
of the parapet, gave the second attack greater
advantage; but the ardor of the defence in-
creased with the danger. The garrison fought
with the indignant ferocity of wild beasts, de-
fending their dens and families; several of them
stood, as in defiance, on the top of the battle-
ments, and endeavoured to grapple with the first
ascendants, hoping with them to twist the lad-
ders down, and this failing, stabbed with their
lances; but, being wholly exposed, were easily
shot by aim from the rear of the escalade. The
assailants admired, for no Europeans had seen,
such excess of courage in the natives of Hin-
dostan, and continually offered quarter, which
was always answered by menace and intention
of death; not a man had gained the rampart at
two in the afternoon, when another cessation of
attack ensued. On this, Rangaroo assembled
the principal men, and told them there was no
hopes of maintaining the fort; and that it was
immediately necessary to preserve their wives and
children from the violation of the Europeans, and
the still more ignominious authority of Vizeram
Rauze.

'A number, called without distinction, were
allotted to the work. They proceeded every
man with his lance, a torch, and a poniard, to
the habitations in the middle of the fort, to which
they set fire indiscriminately, plying the flame
with straw prepared with tutch or brimstone; and
every man stabbed, without remorse, the woman
or child, whichever attempted to escape the
flame and suffocation. The massacre being
finished, those who accomplished it, returned
like men agitated by the furies, to die themselves
on the walls.

'Mr. Law, who commanded one of the divi-
sions, observed, while looking at the conflagra-
tion, that the number of defenders was consider-
ably diminished, and advanced again to the
attack. After several ladders had failed, a few
grenadiers got over the parapet, and maintained
their footing in the tower, until more secured
the possession. Rangaroo, hastening to the de-

fence of the tower, was killed by a musket-ball. His fall increased the desperation of his friends, who crowding to revenge his death, left other parts of the rampart bare. The other divisions of the French troops having advanced, numbers on all sides got over the parapet without opposition; nevertheless, none of the defenders quitted the rampart, or would accept quarter, but each advancing against or struggling with an antagonist, would resign his poniard only with his death.

* The slaughter of the conflict being over, another much more dreadful presented itself in the area below. The transport of victory lost all its joy; all gazed on each other with silent astonishment and remorse, and the fiercest could not refuse a tear to the destruction spread before them. Four of the soldiers of Kangaroo on seeing him fall, concealed themselves in an unfrequented part of the fort until the night was far advanced, when they dropped down from the walls, and speaking the same language, passed unsuspected through the quarters of Vizeram Rauze. They concealed themselves in the thicket, and in the third night after, two of them crawled into the tent of Vizeram Rauze, and stabbed him in thirty-two places, and were immediately cut to pieces. Had they failed, the other two remaining in the forest, were bound by the same oath to perform the deed or perish in the attempt. *Orme, &c.* Distant thirty-two miles west of Cicacole.

BOBINGEN, a market town of the Bavarian States, in the circle of the Upper Danube, district of Goggingen, with 1400 inhabitants. Nine miles south of Augsburg.

BOBISATIO, or BOCEDISATIO, in music, denotes the using of the seven syllables, bo, ce, di, ga, lo, ma, ni, to express the seven musical notes in lieu of the six introduced by Aretine, ut, re, mi, fa, sol, la, as has been sometimes done by the Netherland and German musicians since the beginning of the seventeenth century, to avoid the mutation necessary in the use of the latter.

BOBRAWA, Upper and Lower, two market towns of Moravia, in the circle of Brunn, twenty-six miles north-west of Brunn.

BOBROBA, a market town of Austrian Galicia, in the circle of Sandecz, on the river Biala, on the borders of the circle of Jaslow.

BOB-STAY, a rope used to confine the bowsprit downward to the stem, or cut-water. The use of the bob-stay is, to draw down the bowsprit, and keep it steady; and to counteract the force of the stays of the fore-mast, which draw it upwards.

BOCA DEL TORO, a channel of the Spanish main, which enters into Almirante Bay, east of the island of Bocaloro. Long. $82^{\circ} 8' W.$, lat. $9^{\circ} 6' N.$

BICALIEU, a small island near the east coast of Newfoundland.

BICALORO, an island of the Spanish main, near the coast of Veragua, at the entrance into Almirante Bay, about thirty miles in circumference. Long. $82^{\circ} 16' W.$, lat. $9^{\circ} 12' N.$

BOCANUM, in ancient geography, a town of Mauritania Tingitana, to the south of Mount Atlas, supposed to be Morocco.

BOCARDIO, in logic, the fifth mode of the first figure of syllogisms, wherein the first proposition is particular and negative; the second, universal and affirmative; and the third, or conclusion, particular and negative. Thus:

Boc Some animal is not man.

Ar Every animal has a principle of sensation.

Bo Therefore something has a principle of sensation that is not man.

BOCAS, Dos, Rio De, a large river of Brazil, South America. It rises in the country of the Bacares and Cariputangas Indians, and joins the Tajipurú. After its junction, the two rivers run in different directions, the latter towards the north, until it falls into the Amazons, a little before this river enters the sea, and the Dos Bocas towards the east, until it falls into the Tocantins. The two rivers, in their course, enclose the island of Joannes, which is nearly of a triangular figure, and which divides the great stream of the Amazons into the two mouths, by which it disembogues itself into the sea.

BOCAT, a fine valley of Syria, in which are situated the ruins of BALBEC, which see.

BOCAULT'S BAY, a bay in the Straits of Magellan, on the coast of Patagonia, in which Bougainville anchored in 1767. Long. of the anchoring place $71^{\circ} 6' W.$

BOCCA, in glass-making, the round hole in the working furnace, by which the metal is taken out of the great pots, and by which the pots are put into the furnace. This is to be stopped by a cover made of earth and brick, and removable at pleasure, to preserve the eyes of the workman from the violence of the heat.

BOCCACIO (John), one of the most celebrated and learned of Italian writers, was born in Tuscany in 1313. His father first placed him with a merchant, and soon after with a professor of the canon law. Still, however, he thought of nothing but poetry. In the prosecution of his studies generally, however, he sought the best masters, and, not having an income sufficient for his expenses, was particularly indebted to Petrarch both for money and books. He became early a great admirer of the Greek language, and procured a Latin translation of Homer to be made for his own use. The republic of Florence honored him with the freedom of that city; and employed him in public affairs, particularly to negotiate the return of Petrarch: but this poet not only refused the application, but persuaded Boccacio also to retire from Florence, on account of the factions which prevailed. Having quitted Florence, he went to several places in Italy, and stopped at last at the court of Robert, king of Naples: where, conceiving a violent affection for that prince's natural daughter, he remained a considerable time. He also made a long stay in Sicily, where he was in great favor with queen Joan. He returned to Florence when the troubles were appeased: but being averse from the course of life he must have followed there, he finally retired to Certaldo. His great application to study here brought on an illness, of which he died in 1376. He wrote, 1. *De Genealogia Deorum*. 2. *De Montium, Sylvarum, Fluviorum, &c. nominibus*. 3. *De claris Muliebris*. 4. *De casibus Virorum et Fœminarum*.

rum illustrium, which work was translated into English by Lydgate. 5. *Eclogæ*. The Italian poems are, 6. *La Teseide*. 7. *Il Filostrato*. 8. *Amoroso Visione*. 9. *Nimfale Fiesolano*. 10. *Rime*. His productions in Italian prose are, 11. *L'Amorosa Fiametta*. 12. *Il Filocopo*. 13. *Nimfale d'Ameto*. 14. *L'Urbano*. 15. *Origine vita et Costumi di Dante*. 16. *Il Corbaccio*, a satire. 17. *Commento sopra la Commedia di Dante*. But his *Il Decamerone*, a collection of a hundred stories or novels, feigned to have been related in ten days, has been the chief basis of his modern fame; though it is said not a little to have corrupted the morals of its female readers. Petrarch thought this composition contained so many charms that he translated it into Latin; and it is a very curious and striking picture of the manners of the times, and the frauds and licentiousness of priests and monks; the language is eminently elegant and pure for the period. This work has passed through innumerable editions, a copy of the first of which, that of Valdafer, in 1471, was knocked down at the duke of Roxburgh's sale to the duke of Marlborough for £2260.

BOCCALE, or **BOCAL**, a liquid measure used at Rome, answering to what is called a bottle among us, being equivalent to about an English quart. Seven boccales and a half make a rubbia.

BOCCALINI (Trajan), a celebrated satirical writer, born at Rome, who, in the beginning of the seventeenth century, obtained the admiration of all Italy, by his refined and delicate criticisms. Sovereign princes did not escape the lash of his satire. The cardinals Borghese and Gaetan having declared themselves his protectors, he published his *Ragguagli di Paruasso*, and *La Segretaria di Apollo*, which is the continuation of the former. These works were received by the public with uncommon applause. He at length printed his *Pietra di Parangone*; wherein he attacked the court of Spain, exposing its designs against the liberties of Italy. The Spaniards complained of him in form, and resolved to be revenged. Boccacini retired to Venice, but was there assassinated in a very strange manner. He lodged with a friend, who having risen early one morning, left Boccacini in bed: a minute after, some armed men entered his chamber, and gave him so many blows with bags full of sand, that they left him for dead; so that his friend returning some time after, found him speechless. Great search was made at Venice for the murderers, but, though they were never discovered, it was universally believed that they were employed by the court of Spain.

BOCCARELLA, in the glass manufacture, a small hole or aperture of the furnace, one of which is placed on each side the bocca, almost horizontally with it. Out of them the servitors take colored or finer metal from the filing pot.

BOCCHUS, a king of Mauritania, who delivered Jugurtha in fetters to Sylla.

BOCCIARDI (Clemente), called Clementone, history and portrait painter, born at Genoa in 1620, was the disciple of Bernardo Strozzi, and afterwards studied at Rome. By an excellent genius, and industrious application, he united and blended the antique and modern gusto, in a

style that exhibited both gracefulness and strength. Most of his works, except his portraits, which were lively, natural, and graceful, are in the chapels of Genoa, Pisa, and other cities of Italy.

BOCCONI (Sylvio), a celebrated natural historian, born at Palermo in Sicily. After he had gone through the usual course of studies, he was ordained priest, and entered into the Cistercian order, when he changed his name Paul into Sylvio. In pursuit of his favorite study, natural history, he travelled through Malta, Italy, the Low Countries, England, France, Germany, Poland, &c.; and in 1696, was admitted a member of the academy of Virtuosi in Germany. Upon his return to Sicily, he retired to a convent near Palermo, where he died in 1704, aged seventy-one, leaving many curious works on botany and other subjects. His *Observations on Natural History* were published in French at Amsterdam 1674, and in Dutch 1744.

BOCCONIA, greater tree celandine: a genus of the monogynia order and dodecandria class, natural order twenty-seventh, rhædæ: *cal.* is diphyllous: *cor.* none: *sty.* bifid: the berry dry, and monospermous. *B. frutescens* is esteemed for the beauty of its large foliage. It is very common in Jamaica and other warm parts of America, where it grows to the height of ten or twelve feet, having a straight trunk as large as a man's arm, and covered with a white smooth bark. *B. cordata* has the leaves cordate, a little lobed. A native of China. *PANICLE* elongated, with single, not divided branches: *cal.* white, as in the preceding species, but larger: *stam.* about twenty-four: *styl.* none: *stig.* bilamellated sessile.

BOCCORE, in natural history, first or early fruit. We are informed by Pliny, in his *Natural History*, book xvi. chap. 26, that the fig-tree bore two kinds of fruits, at different periods; the first, which was named boccore, came before the leaves; after that, the leaves; and the true fig followed them. This name is still given to the first or early produce by the Algerines and Tunisians, and was formerly used in Palestine. See Nahum, chap. iii. ver. 12; and the miracle of Christ, as recorded by Mark and Matthew.

BOCHART (Matthew), a learned protestant divine of the seventeenth century, was minister of Alençon, and author of, 1. *A Treatise against Relics*. 2. *Another against the Sacrifice of the Mass*, printed at Geneva in 1658. 3. *A Dialogue on the Difficulties which the Missionaries raised against the Protestants of France*. This work led the Elector Palatine to attempt the reunion of the Lutherans and Calvinists at Augsburg. 4. *Diallacticon*, a work containing a plan for that purpose; dedicated to the Elector, and printed at Sedan in 1662. Some have confounded this author with his cousin Samuel.

BOCHART (Samuel), one of the most learned men in the seventeenth century, was born at Rouen in Normandy, and studied successively at Paris under Thomas Dempster, at Sedan, Saumur, and the university of Oxford. Hence he went to Leyden, where he applied himself to oriental learning, under Erpenius and Ludolf. He was a great proficient in the oriental languages, and many

years pastor of a protestant church at Caen, where he was also tutor to Wentworth Dillon, earl of Roscommon. In the castle of Caen he distinguished himself by his public disputations with father Veron, held in presence of a great number of Catholics and Protestants. His reputation was increased in 1646, by the publication of the two parts of his *Geographia Sacra*, entitled *Phaleg* and *Canaan*; as well as by his *Hierozoicon*, printed at London in 1675. This treats de *Animalibus Sacre Scripture*. In 1652 the queen of Sweden invited him to Stockholm, where she gave him many proofs of her esteem. At his return to Caen he died suddenly, while he was speaking in the academy, on the 16th of May 1667, aged seventy-eight. A complete edition of his works was published in Holland, in 2 vols. folio, 1712. His death gave occasion to the following epitaph:—

Scilicet hæc cuique est data sors æquissima, talis
Ut sit Mors, qualis vita peracta fuit.
Musarum in gremio teneris qui vixit ab annis
Musarum in gremio debuit ille mori.

To him it was appointed, by an equal lot, that his death should resemble his life. He, who from his tender years had lived in the bosom of the Muses, ought also in the bosom of the Muses to die.

BOCCHETTA, *LA*, a narrow pass and ridge of the Appennines, which separates Genoa from Lombardy. It is very narrow, and of difficult passage; for, though the distance from Novi to Genoa is not more than thirty miles, it often requires fourteen hours to travel from the one place to the other. This pass was formerly considered as the key to the Genoese territory, and defended by redoubts; but the Imperialists forced their way through it in 1746, and the French effected the same object in 1796. The neighbourhood is noted for yielding a beautiful superfine stone variegated with marble.

BOCHIM, in ancient geography, a place where the Hebrews assembled after Joshua's death, supposed to have been near Shiloh. *Judg.* ii. 1—10.

BOCHIUS, or *Bocqui* (John), a Latin poet, born at Brussels, in 1555. He travelled into Italy, Germany, Poland, and Muscovy, and at his return became secretary to the duke of Parma. During his journey from Smolensko to Moscow and Livonia his feet were so severely frost bitten, that amputation was ordered; but the Czar, John Basilides, coming with an army to ravage the country, Bochius fled as fast as he could, and being overtaken, stripped, and beaten by the Russians, the exercise restored the use of his limbs. He died in 1609. The critics in the Netherlands set so great a value on his poetry, that they gave him the name of the Belgic Virgil. He wrote, 1. *De Belgii Principatu*. 2. *Parodia Heroica Psalmorum Davidicorum*. 3. *Observationes Physicæ, Ethicæ, Politicæ, et Historicæ*, in Psalmos. 4. *Vita Davidis*. 5. *Orationes*. 6. *Poemata*.

BOCHINIA, a town of Austrian Galicia, noted for its salt mines. These have been worked ever since 1261, and seem still to be inexhaustible, employing a vast number of workmen, and

yielding annually about 900,000 quintals of salt. The town is situated on the road from Lemberg to Cracow, twenty miles east of the latter city, and contains about 3200 inhabitants, who are chiefly employed in the mines. Alabaster is obtained in the neighbourhood.

BOCKHOLDT (John), a pretended prophet among the Anabaptists of Germany, in the beginning of the sixteenth century. He was a journeyman tailor of Leyden, one of Munzer's followers, and an associate of Matthias, who also pretended to the gift of prophecy. These two fanatics, in 1533, established a numerous party at Munster. Having made themselves masters of the city, they deposed the magistrates, confiscated the estates of such as had escaped, and deposited the wealth they amassed together in a public treasury for common use. They made preparations of every kind for the defence of the city; and sent out emissaries to the Anabaptists in the Low Countries, inviting them to assemble at Munster, which was now dignified with the name of Mount Sion, that from hence they might be deputed to reduce all the nations of the earth under their dominion. Matthias, who was the first in command, was soon cut off in an act of phrensy, by the bishop of Munster's army; and was succeeded by Bockholdt, who was proclaimed by a special designation of Heaven, as he pretended, king of Sion, and invested with legislative powers like those of Moses. The extravagances of Bockholdt were too numerous to be recited; it will be sufficient to add, that the city of Munster was taken after a long siege and an obstinate resistance, and Bockholdt the mock monarch punished with an ignominious death. See **ANABAPTISTS**.

BOCKHOLT, or **BOCHOLT**, a town and bailiage of Prussia, situate in the grand duchy of the Lower Rhine, principality of Munster, on the borders of Cleves, and containing three parishes, and the large village of Weerd, with a population of about 1200 inhabitants. The town of Bocholt is seated on the river Aa, has 2600 inhabitants, and furnishes good grain, brandy, cotton, and silk; in the neighbourhood there are valuable iron mines. In 1802 both the town and bailiwick were granted as an indemnity to the prince of Salms, and, after forming part of the French empire, came to Prussia with the rest of the principality in 1815. Thirty-six miles W. S. W. of Munster, and twenty-four east of Cleves.

BOCK-LANDS, in the time of the Saxons, were what we now call freehold lands, held by persons of rank, by charter or deed in writing. It was distinguished from folkland, or copyhold land, held by the common people without any written deed.

BODDAERTI, in ichthyology, a species of gobius, found in the Indian Ocean. The body is bluish-brown, beneath pale yellow, convex shape, tapering in a slight degree towards the tail, and covered with small soft scales.

BODE', *v.* & *n.* } Ang.-Sax. bodian. To
Bo'DEN, *v.* } make known; to manifest;
BODE'WORD, } to announce; to portend;
BODE'MENT, } to foreshow; to exhibit a
Bo'DING. } sign or token, either of future good, or ill. In the first sense it is used by our elder writers, as in R. Brunne, 'The

bode came to the king,' is simply the news came; it was made known.

There was the dove, with her eyen so meke;
The jelous swan, ayenst his deth that singeth;
The oule eke, that of deth the *bode* he bringeth
Chaucer. Assemblee of Fowles.

This *bodes* some strange eruption to our state.

Hamlet.

This foolish, dreaming, superstitious girl
Makes all these *bodements*. *Shakspeare.*

Macheth shall never vanquished be, until
Great Birnam wood to Dunsinane's high hill
Shall come against him—

That will never be:

Sweet *bodements*, good.

Id.

I have seen them,
Like *boding* owls, creep into tods of ivy
And hout their fears to one another nightly.

Beaumont's Bonduca.

other harm

Those terrors which thou speak'st of did me none;
I never feared they could, though noising loud
And threatening nigh; what they can do as signs
Betokening, or ill *boding*, I contemn
As false portents, not sent from God, but thee.

Milton.

You have opposed their false policy with true and
great wisdom; what they *boded* would be a mischief
to us, you are providing shall be one of our principal
strengths.

Spratt's Sermons.

It happened once, a *boding* prodigy! *Dryden.*

If fiery red his glowing globe descends,
High winds and furious tempests he portends;
But, if his cheeks are swoln with livid blue,
He *bodes* wet weather by his watery hue. *Id.*

Sir, give me leave to say, whatever now

The omen prove, it *boded* well to you. *Id.*

That raven on yon left-hand oak

(Curse on his ill-betiding croak)

Bodes me no good. *Gay's Fables.*

But cawing rooks and kites that swim sublime

In still repeated circles, screaming loud

The jay, the pie, and e'en the *boding* owl,

That hails the rising moon, have charms for me.

Cowper's Task.

BODGE, *v. & n.* A word in Shakspeare, which is perhaps corrupted from boggle. To boggle; to stop; to fail; to make bungling work; a low unskilful tailor is commonly called a botcher. Bodge and botch are nearly the same word; the difference seems to be only in their pronunciation and orthography.

With this we charged again; but out, alas!

We *bodged* again: as I have seen a swan,

With bootless labour, swim against the tide.

Shakspeare.

BODIANUS (Portuguese bodiano), in ichthyology, a sea fish like the tench. Bloch, Lacép. Cuv. Schneid., Bodian, belonging to the family of percoids, and order acanthopterygii. Its generic character is, preopercule neither spined nor serrated; opercule having one or more spines. Lacépède subdivides this genus into two; 1st. such as have the tail forked or divided, and 2d. such as have it round and single. Cuvier has, however, preferred the number of the spines to form a subdivision on. These are always placed at the posterior margin of the opercule which is loose; and Cuvier does not consider

that any possess more than three spines. The species are, *B. guttatus*, Bloch; *B. Jacob* Evertson, Lacép. ican-ocara of the Japanese; ganimin of the Malays, Jew fish, Brown, with three spines. The general size is from twelve to eighteen inches, but Bloch believes that the Jew fish, described by Brown in his History of Jamaica, and which measured six feet in length, belongs to this species. It has the dorsal, caudal, and anal fins partly covered with small scales, of a yellowish color, and edged with violet. *B. benak*, Bloch, Lacép.; *B. zebra*, Shaw; striped bodian, also with three spines, and, *B. louti*. Lacép.; *perca louti*, Linn.; *louti* of the Arabs, about two feet long. Also, *B. miniatus*, schneid *perca miniata*, Forsk.; *zarban* of the Arabs. Of a cochineal red color spotted with blue, native of the red sea. With two spines: *B. argenteus*, Bloch; silver bodian. Body oblong, and covered with small silvery scales; the fins are yellow, and the tail edged with blue. It has been taken in the Mediterranean. *B. sebæ*, Schneid.; *perca oblonga*, Seba; *seba bodian*. Body round, head marked with eight or nine brownish zones. With one spine: *B. aya*, Bloch, Lacép.; *B. ruber*, Schneid; *acara aya* of the Brasilians, red bodian. General color red, the back of a deep crimson, the belly silvery. *B. marginatus*, Bloch; *B. apua*, Lacép; *parati apua* of the Brasilians, marginated bodian. *B. striatus*, Schneid; striated bodian. *B. macrocephalus*, Lacép.; great-headed bodian.

BO'DICE, *n. s.* From bodies. Stays; a waistcoat quilted with whalebone, worn by women.

Her *bodice* halfway she unlaced;

About his arms she slyly cast

The silken band, and held him fast. *Prior.*

This consideration should keep ignorant nurses and *bodice* makers from meddling.

BODIN (John), a native of Angers, one of the ablest men in France in the sixteenth century, famous for his Method of History, his Republic, and other works. He was in great favor with Henry III. who imprisoned John de Serre for writing an injurious piece against Bodin, and forbade him upon pain of death to publish it. But his favor was not of long continuance. The duke of Alençon, however, gave him several employments; and carried him to England with him as one of his counsellors, where he had the pleasure to see his book, de Republicâ, read publicly in the University of Cambridge, having been translated from the French into Latin. In the Ragguagli of Boccacini ne is condemned, as an atheist, to the fire, for having said that liberty of conscience ought to be granted to sectaries. Upon the death of the duke of Alençon, Bodin retired to Laon, where he married. He had an office in the presidial of the city; and in Charles IX's time, was the king's solicitor with a commission for the forests of Normandy. He died of the plague at Laon, in 1596.

BOD'KIN, *n. s.* Boddiken, or small body.—*Skinner.* A diminutive of body; a small sharp instrument; a dirk; an instrument with an eye, resembling a common needle, blunted at the point, and used to draw a thread or ribbon through a loop; an implement formerly used to dress the hair.

Then dorste no wight clepen hire but dame :
Was non so hardy, that went by the way,
That with hire dorste rage, or, ones play
But if he wol be slain, of Simekin,
With parade, or with knif or bodekin.

Chaucer. Canterbury Tales.

Each of them had *bodkins* in their hands, where-
with continually they pricked him. *Sidney.*

Now meet thy fate, incensed Belinda cried,
And drew her deadly *bodkin* from her side ;
The same, his ancient personage to deck,
Her great great grandsire wore about his neck,
In three seal rings ; which, after melted down,
Formed a vast buckle for his widow's gown :
Her infant grand-dame's whistle next it grew,
The bells she jingled and the whistle blew ;
Then in a *bodkin* graced her mother's hairs,
Which long she wore, and now Belinda wears.

Pope's Rape of the Lock.

If I had stuck him with my *bodkin*, and behaved
myself like a man, since he wont treat me like a
woman, I had, I think, served him right. *Spectator.*

BODLEIAN LIBRARY, in literature, a library
in Oxford, called after its founder, Sir Thomas
Bodley, which is noted throughout Europe, for
its immense collection of valuable books and
manuscripts.

BODLEY (Sir Thomas), founder of the Bodleian
library at Oxford, was born at Exeter, in 1544.
When he was about twelve years of age, his
father, being a Protestant, was obliged to leave
the kingdom. He settled at Geneva with his
family, and continued there till the death of queen
Mary. In that university, then in its infancy,
young Bodley studied the learned languages,
&c. under several eminent professors. On the
accession of queen Elizabeth, he returned with
his father to England, and was soon after entered
of Magdalen College, Oxford. In 1563 he took
his degree of B.A. and the year following was
admitted fellow of Merton. In 1565 he read
a Greek lecture in the hall of that college ; in
1566 he took his degree of M.A. and read nat-
ural philosophy in the public schools. In 1569
he was one of the proctors of the university, and
for some time officiated as public orator. In
1576 he quitted Oxford, and made the tour of
Europe, but returned to his college after four years
absence. He became gentleman-usher to queen
Elizabeth, in 1563 ; and in 1565 married the
widow of Mr. Ball, a lady of fortune. He was
soon after sent ambassador to the king of Den-
mark, and other German princes. He was next
charged with an important commission to Henry
III. of France ; and in 1588 went ambassador
to the United Provinces, where he continued till
1597. On his return to England, finding his
preferment obstructed by the jarring interests of
Burleigh and Essex, he retired from court, and
could never afterwards be prevailed upon to
accept of any employment. He now began the
foundation of the Bodleian library, which was
completed in 1599. Soon after the accession of
king James I. he received the honor of knighthood,
and died in 1612. He was buried in Merton
College. His monument is of a black and white
marble, on which stands his effigy in a scholar's
gown, surrounded with books. At the four cor-
ners are the emblematical figures of grammar,

rhetoric, music, and arithmetic. Sir Thomas
was a polite scholar, an able statesman, and a
worthy man. Granger observes, that he merited
much as a man of letters, but incomparably more
in the ample provision he made for literature, and
that his library is a mausoleum which will per-
petuate his memory as long as books themselves
endure. Sir Thomas wrote his own life to the
year 1609, which in 1703 with the first draught
of the statues, and his letters, were published by
Hearne, from the originals in the Bodleian.

BODMIN, a borough town of Cornwall,
where the summer assizes are held, seated in a
bottom between two hills, which renders the air
unwholesome. It consists chiefly of one street,
and the many decayed houses show that it has
once been a place of greater note. It has a
mayor, sends two members to parliament, and
manufactures serge. It had formerly the privi-
lege of the coinage of tin. It is said to be the
only open borough in the county, and lies thirty-
two miles north-east of Falmouth. Population
about 3000.

BODON, the ancient Viminacium, a fortified
town of Bulgaria in European Turkey, with an
archbishop's see. It is seated on the Danube,
twenty-six miles west of Widdin.

BODUNGEN, GREAT, a market town and
castle of Saxony, on the river Bode, in the prin-
cipality of Schwartzburg-Sondershausen. Here
are some woollen manufactures, and a potash-
work. Five miles north of Bleicheroda.

BOD'Y, v. & n. Sax. bodig. It ori-
ginally signified the
height or stature of a
man. It is however a
word of most extensive
and various application. It is applied to the
material substance of an animal opposed to the
immaterial soul ; to the entire person ; to matter
as opposed to spirit ; to the trunk of an animal
or a tree, as distinguished from the limbs or
branches ; to reality as opposed to mere rep-
resentation ; to the main substance, the mass
of any thing ; to a collected number of men
united for any common purpose. To body, body
forth, and embody, is to impart substantial form
and shape ; to clothe ideas in words ; to give
to airy nothing a local habitation and a name ;
to give to spirit a corporeal dwelling.

All the valiant men arose, and went all night, and
took the *body* of Saul, and the *bodies* of his sons, from
the wall. *Samuel.*

Take no thought for your life, what ye shall eat,
or what ye shall drink ; nor yet for your body, what
ye shall put on. *Matthew.*

A shadow of things to come ; but the *body* is of
Christ. *Colossians.*

Over all, this strength of *body* and worldly hardi-
nesse causeth, full oft, to many, peril and mischance.
Chaucer. Canterbury Tales.

So every spirit, as it is most pure,
And hath in it the more of heavenly light,
So it the fairer *bodie* doth procure
To habit in, and it more fairly dignit
With chit'rull grace and amiable sight ;
For, of the soule, the *bodie*, forme doth take ;
For soule is forme, and doth the *bodie* make.
Spenser's Hydnos.

Surely, a wise *body's* part it were not to put out his fire, because his foolish neighbour, from whom he borrowed wherewith to kindle it, might say, were it not for me thou wouldst freeze. *Hooker.*

There is in the knowledge both of God and man this certainty, that life and death have divided between them the whole *body* of mankind. *Id.*

Of such as resorted to our Saviour Christ, being present on earth, there came not any unto him with better success, for the benefit of their souls' everlasting happiness, than they whose *bodily* necessities gave occasion of seeking relief. *Id.*

A deflowered maid!

And by an eminent *body* that enforced

The law against it. *Shakspeare.*

'Tis a passing shame,

That I, unworthy *body* as I am,

Should censure thus on lovely gentlemen. *Id.*

This is the very coinage of our brain;

This *bodiless* creation ecstasy

Is very cunning in. *Id.*

Whatever hath been thought on in this state,

That could be brought to *bodily* act, ere Rome
Had circumvention. *Id.*

As imagination *bodies* forth

The forms of things unknown, the poet's pen

Turns them to shape. *Id.*

Thence sent rich merchandizes by boat to Babylon; from whence, by the *body* of Euphrates, as far as it bended westward; and, afterward, by a branch thereof. *Raleigh.*

All philosophers impute the miseries of the *body*
to the soul. *Burton's Anat. Mel.*

God saw,

Surveying his great work, that it was good:

For of celestial *bodies* first the sun,

A mighty sphere he framed, unlightsome first,
Though of ethereal mould. *Milton.*

From these corporeal nutriments perhaps

Your *bodies* may at last turn all to spirit,

Improved by tract of time, and winged, ascend

Ethereal, as we, or may at choice

Here or in heavenly paradises dwell. *Id.*

All civility and reason obliged every *body* to submit.

Clarendon.

The van of the king's army was led by the general and Wilmot; in the *body* was the king and the prince; and the rear consisted of one thousand foot, commanded under colonel Thelwell. *Id.*

There were so many disaffected persons of the nobility, that there might a *body* start up for the king. *Id.*

Virtue atones for *bodily* defects; beauty is nothing worth, without a mind. *L'Estrange.*

Even a metalline *body*, and therefore much more a vegetable or animal, may, by fire, be turned into water. *Boyle.*

These are but shadows,

Phantoms *bodiless* and vain,

Empty visions of the brain. *Swift.*

I shall now mention a particular wherein your whole *body* will be certainly against me, and the laity, almost to a man, on my side. *Id.*

Nothing was more common, than to hear that reverend *body* charged with what is inconsistent; despised for their poverty, and hated for their riches. *Id.*

As clearness of the *bodily* eye doth dispose it for a quicker sight; so doth freedom from lust and passion dispose us for the most perfect acts of reason. *Tillotson.*

This city has navigable rivers, that run up into the *body* of Italy; they might supply many countries with fish. *Addison.*

I am informed, that several asses are kept in *body*-cloaths, and sweated every morning upon the heath. *Id.*

When pigmies pretend to form themselves into a *body*, it is time for us, who are men of figure, to look about us. *Id. Guardian.*

It is his human nature, in which the godhead dwells *bodily*, that is advanced to these honours, and to this empire. *Watts.*

Know then whatever cheerful and serene

Supports the mind, supports the *body* too.

Armstrong's Art of Preserving Health.

But ah! what woes remain! life rolls apace,

And that incurable disease old age,

In youthful *bodies* more severely felt,

More sternly active shakes their blasted prime. *Id.*

Body, as distinguished from the soul, becomes the subject of ANATOMY, which see. The height of the human body has been said to be different in different parts of the day. It ceases to grow in height, when the bones are arrived at a degree of firmness and rigidity, which will not allow of a farther extension by the effort of the heart and motion of the blood.

Body, in painting, or To bear a body, signifies that the colors are of such a nature as to be capable of being ground fine, and mixing with the oil entirely, so as to seem only a very thick oil of the same color.

Body, in physics, an extended solid substance, of itself utterly passive and inactive, indifferent either to motion or rest.

Body, in the art of war, a number of forces, horse and foot united, and marching under one commander.

Body, in the menage. A horse is chiefly said to have a good body when he is full in the flank. If the last of the short ribs be at a considerable distance from the haunch bone, although such horses may for a time have pretty good bodies, yet, if they are much labored, they will lose them; and these are properly the horses that have no flank. It is also a general rule that a man should not buy a light-bodied horse, and one that is fiery, because he will soon destroy himself.

BOEBERA, in botany, a genus of plants. Class syngenesia; order polygamia: CAT. double; the outer many-leaved; inner eight-leaved: receptacle naked: down simple. One species only.—B. chrysanthemoides. A Mexican plant; erect, branched; leaves pinnate; with toothed leaflets; flowers yellow.

BOECE, or BOETHIUS (Hector), a Scottish historian, was born at Dundee about A.D. 1470, and studied with applause in the university of Paris, where he became acquainted with Erasmus, and laid the foundation of a friendship which was honorable to him. In 1500 he was recalled to Aberdeen by bishop Elphinston, who made him principal of that university. Gratitude for this promotion engaged him to write, with particular attention, the Life of that prelate. It appeared in his history of the diocese of Aberdeen; and may be considered, perhaps, as the most valuable portion of that work. His History of Scotland, a more useful undertaking, was first published in 1526. In 1574 it underwent a second impression, and was enriched with the eighteenth book and a part of the nineteenth. A farther continua-

tion of it was executed by Joannes Ferrerius Pedemontanus. Boece died about A.D. 1550. He has been compared, and not without reason, to Geoffrey of Monmouth. He had a propensity to fable and exaggeration: a fault, for which the elegance of his expression does not compensate. His judgment was not equal to his genius: and his fictions as a historian are a contrast to his probity as a man. John Ballenden, archdeacon of Murray, translated his history into the Scottish language at the desire of James V. This translation William Harrison converted, though with imperfections, into English; and his associate Hollingshed published his work in his Chronicle, with additions and improvements by the ingenious Francis Thynne.

BOECLER (John Henry), a German critic and historian, was born in 1611, at Cronheim, in Franconia, and died in 1692, leaving among his works, 1. Editions of Herodian, 8vo.; Suetonius, 4to. 1647; Manilius, 4to. 1655; Terence, 8vo. 1657; Cornelius Nepos, 12mo., Ultraj., 1665; Polybius, 4to. 1666, 1670, 1680; also part of Tacitus, Paterculus, Virgil, Herodotus, and Ovid, &c. 2. *De Jure Galliæ in Lotharingiam*, 4to. 3. *Dissertatio de Scriptoribus Græcis et Latinis*, &c. 8vo. *ibid.* 1674. 4. *Bibliographia-Historico-Politico-Philologica*, 8vo. 1677. 5. *Historia Belli-Sueco-Danici, annis 1643—1645*, 8vo., Holm., 1676; Argentorat. 1679. 6. *Historia Universalis*, &c. 8vo. *ibid.* 1680. 7. *Notitia Sacri Imperii Romani*, 8vo. *ibid.* 1681. 8. *De Rebus Sæculi post Christum XVI. Liber Memorialis*, 8vo., Kiel, 1697. 9. *Bibliographia Critica*, 8vo. Leips., 1715.

BOEDGEROENS, a chain of small islands, in a spacious bay of the South Pacific Ocean, near the north coast of New Guinea. Long. 135° 33' E., lat. 2° 25' S.

BOEDROMIA, in antiquity, solemn feasts held at Athens, in memory of the succour brought by Ion to the Athenians, when invaded by Eumolpus son of Neptune, in the reign of Erechtheus. But, according to Plutarch, the Boedromia were celebrated in memory of the victory obtained by Theseus over the Amazons, in the month Boedromion.

BOEDROMION, in chronology, the third month of the Athenian year, answering to the latter part of August and beginning of September.

BOEHMEN (Jacob), called the Teutonic philosopher, was a noted visionary of the seventeenth century, born in a village of Germany, near Gorlitz, in 1575. He was bred a shoemaker; and, marrying, supported a large family by this occupation; until, after amusing himself with chemistry, a visionary turn of mind, heated by sermons and German divinity, overpowered his common sense, and produced raptures and notions of divine illumination. These he first gave to the world in 1612, by a treatise entitled *Aurora, or the Rising of the Sun*, which being censured by the magistrates of Gorlitz, he remained silent for six years: but improving that interval by pursuing the flights of his imagination, he resumed his pen; and resolving to redeem the time lost, he, in the remaining six years of his life, published above twenty books, which greatly needed what he concluded with, A Table

of Principles, or Key to his Writings. This appeared in 1624, and he did not long survive it. He died early in the morning of the 18th of November in that year. Boehmen has not been without numerous admirers both in Germany and England; among whom was the famous William Law, author of *Christian Perfection*, &c. who published an English edition of Jacob Boehmen's works in 2 vols. 4to.

BOEHMERIA, in botany, a genus of plants, class monœcia, order tetrandria. Male: cal. four-parted; no cor. Female: no cal. crowded scales, between each of which is an obovate gem: style one: seed single and compressed. Species five: West Indian or American plants.

BEOTIA, an ancient kingdom of Greece, founded or rather restored by Cadmus, and so named by him from the ox which is said to have directed him to the place where he built the capital of his new kingdom, better known afterwards by the name of Thebes. Its original names were Aonia, Mesapia, Ogygia, and Cadmeis, and it forms at present a part of Livadia. This country is celebrated as the birth-place of Pindar, Hesiod, and Plutarch, &c.; and its fountains, particularly the Helicon, as the seat of the Muses. Its ancient medals are distinguished generally by the shield called Scutum Beoticum, frequently bearing also the figure of Neptune, who was particularly honored there. As the inhabitants were more generally distinguished as a nation by the name of Thebans, we refer to the article THEBES for their history, &c.



BOERHAAVE (Herman), one of the greatest physicians, as well as the best of men, that any age has ever produced, was born in 1688 at Voorhout, a village near Leyden. At the age of sixteen he found himself without parents, protection, advice, or fortune. He had already studied theology and the other ecclesiastical sciences, with the design of devoting himself to a clerical life; but the science of nature, which had equally engaged his attention, soon engrossed his whole time. This illustrious person, whose name afterwards spread throughout the world, and who left at his death above £200,000, could at that time barely live by his labors, and was compelled to teach the mathematics to obtain his bread. But in 1693, being admitted M.D., he began practice; and his merit being at length discovered, many powerful friends patronised him, and procured him three professorships in the university of Leyden: viz. those of medicine, chemistry, and botany. The Academy of Sciences at Paris, and the Royal Society at London, invited him to become one of their members. He communicated to each his discoveries in chemistry, and his fame was now rapidly diffused throughout Europe. The city of Leyden became in his time the school of Europe for chemistry, as well as medicine and botany. When Peter the Great went to Holland in 1715, to instruct himself in maritime affairs, he also attended Boerhaave, and his reputation is said to have spread as far as China: where a Mandarin wrote to him with this inscription, 'To the illustrious Boerhaave, physician in

Europe;' and the letter came regularly to him. It has been affirmed, that, from the time of Hippocrates, no physician has more justly merited the esteem of his contemporaries, and the thanks of posterity, than Boerhaave. His piety, and the qualities of his heart, also deserve commendation. It was his daily practice through life, as soon as he rose in the morning, which was generally very early, to retire for an hour to prayer and meditation on the Scriptures. He often told his friends, when they asked him how it was possible for him to go through so much fatigue, that it was this which gave him spirit and vigor in the business of the day. The health of the body, he said, must be promoted by the tranquillity of the mind; and that he knew of nothing which could support himself, or his fellow-creatures, amidst the various distresses of life, but a well-grounded confidence in the Supreme Being. This he strongly exemplified in his own severe illness in 1722, by which the course of his lectures as well as his practice was long interrupted. He was for five months confined to his bed by the gout, until he determined to try whether the juice of fumitory, endive, or succory, taken thrice a day in a large quantity (viz. above half a pint each dose), might not contribute to his relief; and by a perseverance in this method he recovered. Boerhaave never regarded calumny or detraction, nor ever thought it necessary to confute them. 'They are sparks,' said he, 'which, if you do not blow, will go out of themselves. The surest remedy against scandal, is to live it down by a perseverance in well doing.' Being once asked by a friend, who had often admired his patience under great provocations, whether he knew what it was to be angry, and by what means he had so entirely suppressed that impetuous and ungovernable passion; he answered, with the utmost frankness and sincerity, that he was naturally quick of resentment; but that he had, by daily prayer and meditation, at length attained a mastery over himself. About the middle of the year 1737 he felt the first approaches of the illness which brought him to the grave, viz. a disorder in his breast, which at times threatened him with immediate suffocation, and terminated in an universal dropsy. During this lingering illness, however, his firmness did not forsake him; he neither intermitted the necessary cares of life, nor the proper preparations for his death, which took place the 23d day of September, 1738, in the seventieth year of his age. The city of Leyden has raised a monument in the church of St. Peter, Salutifero Boerhavi genio sacrum. It consists of an urn upon a pedestal of black marble: six heads, four of which represent the four ages of life, and two the sciences in which Boerhaave excelled, from a group issuing between the urn and its supporters. The capital of this basis is decorated with a drapery of white marble, in which the artist has shown the different emblems of disorders and their remedies. Above, upon the surface of the pedestal, is the medallion of Boerhaave: at the extremity of the frame, a ribbon displays the favorite motto of this learned man; *Simplex sigillum veri*, 'Truth unarrayed.' He wrote, 1. *Institutiones Medicæ*; 2. *Aphorismi de Cognoscendis et Curandis Mor-*

bis; 3. *Institutiones et Experimenta Chemicæ*; 4. *Libellus de Materia Medica, et Remediorum Formulæ quæ Serviant Aphorismis*; 5. *Elementa Chemicæ*; 6. *De studio Hippocratico*; 7. *De Usu Ratiocinii Mechanici in Medicinâ*; 8. *De Comparando certo in Physicis*; 9. *De Vita Bernardi Albani*; 10 and 11. *Indices Plantarum in horto Lugd. Bat.*; 12. *De Fabrica Glandularum*; 13 and 14. *Atrocium Morborum Historiæ*; 14. *De Lue Aphrodisiaca, &c.*

BOERHAAVIA, a genus of the monogynia order, belonging to the monandria class of plants: *cal.* none: *cor.* monopetalous, campanulated, and plaited: *seed* one, naked. There are twelve species, all natives of the West Indies. Some of their plants rise five or six feet high, but most of them only eighteen inches or two feet. The principal are: *B. esceta* of the West Indies, with ovate undulate leaves, and white corolla with five reddish stripes. *B. excelsa*, with a longer stem, and longer purple flowers.

BOERNERIANUS CODEX, in biblical history, a MS. of part of the New Testament, noted G, in the second part of Wetstein's New Testament. It belonged to Dr. C. F. Boerner, was collated by Kuster, and described in the preface to his edition of Mill's Greek Testament. It contains the epistles of St. Paul, that to the Hebrews excepted, which was formerly rejected by the church of Rome; it is written in Greek and Latin, according to one of those versions which were in use before the time of Jerome. The Latin is interlined between the Greek, written over the text, of which it is a translation. That it is an ancient MS. appears, says Michaelis, from the form of the characters, and the want of accents and marks of aspiration. From the correspondence of the letters *r*, *s*, and *t*, in the Latin translation, to that form which is found in the Anglo-Saxon alphabet, it is inferred that this MS. was written in the west of Europe, probably between the eighth and twelfth centuries. This MS. is preserved at present in the electoral library at Dresden.

BOETES, small guns made of wrought or cast iron, which are laid in a vertical position, after they have been loaded with gunpowder, and then plugged up with a wooden stopper. These guns are let off, like other pieces of ordnance, by applying the match to the bottom of the box. The train, along which the fire is conveyed, consists of gunpowder with bran, in order to secure the latter from moisture.

BOETHICUS, in entomology, a species of hesperia, inhabiting India. The wings are tailed, bluish-brown, pale ash color beneath, and undulated with whitish; a double ocellar spot in the anal angle.

BOETHIUS (Hector). See **BOECE**.

BOETHIUS, or **BOETIUS** (Flavius Anicius Manlius Torquatus Severinus), a prose as well as political writer of the sixth century, descended of one of the noblest families in Rome. He was born about the period when Augustulus, whose fears had induced him to a resignation of the empire, was banished, and Odoacer king of the Herulians began to reign in Italy, viz. about A. D. 479. Boetius's father dying while he was an infant, his relations undertook the care of his edu-

cation. His excellent parts were soon discovered ; and to enrich his mind with the study of philosophy, as well as to perfect him in the Greek language, he was sent to Athens. Returning young to Rome, he was soon distinguished and promoted to the principal dignities in the state, and at length to the consulate. Though living in great affluence and splendor, he studied theology, mathematics, ethics, and logic ; and his success in each of these branches appears from his works still extant. At this time Theodoric the Goth had attempted to ravage Campania ; and it was owing to the vigilance and resolution of Boetius that that country was preserved from destruction. At length, Theodoric, having murdered Odoacer, became king of Italy, where he governed thirty-three years with prudence and moderation, during which time Boetius possessed a large share of his esteem and confidence. Justin, emperor of the East, now made an edict condemning all the Arians, except the Goths, to perpetual banishment from the eastern empire : in this edict Hormisdas bishop of Rome, and the senate, concurred. But Theodoric, who was an Arian, was extremely troubled at it, and conceived an aversion against the senate for the share they had borne in this proscription. Of this disposition in the king, three men of profligate lives and desperate fortunes, Gaudentius, Opilio, and Basilus, took advantage ; and entertaining a secret desire of revenge against Boetius, for having been instrumental in the dismissal of Basilus, they accused him of several crimes ; such as the stifling a charge, which was to involve the whole senate in the guilt of treason ; and an attempt, by dethroning the king, to restore the liberty of Italy ; and, lastly, they suggested that, to acquire the honors he possessed, Boetius had recourse to magical art. He was at this time at a distance from Rome ; however, Theodoric transmitted the complaint to the senate, enforcing it with a suggestion that the safety, as well of the people as the prince, was rendered very precarious by this supposed design to exterminate the Goths : and the senate, without summoning him to his defence, condemned Boetius to death. The king, however, mitigated the sentence to banishment. Ticinum, now Pavia, in Italy, became the place of his exile ; and here, separated from his relations, who had not been permitted to follow him, he endeavoured to derive from philosophy those comforts which it was capable of affording, and composed that valuable discourse, entitled *De Consolatione Philosophiæ*. About two years after his banishment, Boetius was beheaded in prison by the command of Theodoric. His tomb is to be seen in the church of St. Augustine, at Pavia. The extensive learning and eloquence of this great man are conspicuous in his works, which seem to have been collected with great care ; an edition of them was printed at Venice, in one volume folio, in 1499. In 1570 Glareanus, of Basil, collated that with several MSS., and published it, with a few various readings in the margin. His chief performance, *De Consolatione Philosophiæ*, is well known in the learned world. Our Saxon king Alfred, whose reign, though happy upon the whole, was attended with great vicissitudes of fortune, had recourse to it at a

time when his distresses compelled him to seek retirement ; and, that he might the better impress upon his mind the noble sentiments inculcated in it, he made a complete translation of it into the Saxon language. Camden relates that queen Elizabeth also, during the time of her confinement by her sister Mary, read, and afterwards translated it into very elegant English. Boetius is also the most considerable of all the Latin writers on music ; his treatise *De Musica* supplied for some centuries the want of those Greek MSS. which were supposed to have been lost.

BOFFRAND (Germain), a celebrated French architect, was the son of a sculptor by a sister of the famous Quinault, and born at Nantes in 1667. He was trained under Hardouin Mansard, who trusted him with the execution of his greatest works. His manner of building approached to that of Palladio. He was employed by many German princes, and constructed a number of bridges, &c. He was admitted into the French academy, and wrote a book on the principles of architecture, with an account of the various plans, elevations, &c. of the principal works he had executed. He was a man of a disinterested spirit, and pleasing manners. He died at Paris in 1755, aged eighty-eight.

BOG', v. & n. } Dutch, *boogen* ; Irish, *bog* ;
 BOG'GY, } Fr. *bague*. That which gives
 BOG'LAND, } way to pressure ; a ground too
 BOG'TROTTER. } soft to bear the weight of any
 body ; marshy ; swampy. Ang.-Sax. *bugan*, to
 bow ; to bend ; to yield.

Through fire and through flame, through ford and whirlpool, o'er *bog* and quagmire. *Shakspeare.*

A gulf profound ! as that Serbonian *bog*,
 Betwixt Damietta and mount Casius old.

Milton.

All unawares,
 Fluttering his pennons vain, plumb down he drops
 Ten thousand fathom deep ; and to this hour
 Down had been falling, had not, by ill chance,
 The strong rebuff of some tumultuous cloud,
 Instinct with fire and nitre, hurried him
 As many miles aloft : that fury stay'd,
 Quenched in a *boggy* syrtis, neither sea,
 Nor good dry land ; nigh foundered on he fares,
 Treading the crude consistence half on foot,
 Half flying ; behoves him now both oar and sail,

Milton.

He walks upon *bogs* and whirlpools ; wheresoever
 he treads, he sinks. *South.*

Learn from so great a wit, a land of *bogs*,
 With ditches fenced, a heaven fat with fogs. *Dryden.*

He is drawn, by a sort of ignis fatuus, into *bogs*
 and mire almost every day of his life. *Watts.*

Bog properly signifies a quagmire covered with grass, but not solid enough to support the weight of the body, in which sense it differs only from marshes or fens, as a part from the whole. These soft masses of earth have been sometimes known to move out of their place. There was an instance of this in the year 1697, about Charleville, in the county of Limerick. A noise was heard for some time under ground like that of thunder at a great distance ; and soon after this the earth of a large bog in the neighbourhood began to move, and a hill situated in the middle of it stood no longer above the level of the rest, but sunk flat.

Not only the bog itself moved, but the neighbouring pasture-lands also, though separated by a large and deep ditch, partook of the motion for a considerable time, the surface of the moving earth rising into a sort of waves, but without breaking up or bursting any where. The pasture-lands rose very high, and were carried on in the same motion till they rested upon a neighbouring meadow, the whole surface of which they covered, remaining sixteen feet deep upon it. The whole quantity of the bog was torn from its former seat and left great gaps in the earth where it had joined, which threw up foul water, and very stinking vapors. *Phil. Trans.* No. 233.

BOGALCUND, a district of Hindostan, in the province of Gundwana; bounded on the west by the British possessions in Bundelcund; on the east by the territory of Manwas; and watered by the rivers Soane, Bichanuddy, and Behennuddy. It lies in about the 25° N. lat. and 82° E. long. Its exact dimensions, though not ascertained, appear to be considerable. It is in great part fertile, and well cultivated with wheat, barley, and peas; the natives have also numerous herds of black cattle, and large flocks of sheep, and it is traversed by good roads. Its access from Allahabad, to which it was annexed by Aurengzebe, is by a pass called Sohagee Ghaut, long, steep, and difficult, having at its extremity a strong redoubt. From hence Bogalcund is quite table-land. The inhabitants, called Bogals, Bogheleis, or Boghels, are reported to have migrated hither from Guzerat many centuries ago, and gradually to have encroached on their neighbours. They consist of five different tribes, acknowledging the same government, but without admitting an equal control, or paying the like obedience to it. Part, or the whole, profess the Mahommedan religion, and many temples are to be seen here. Three of these tribes follow a practice, too general in the east, of destroying their infant daughters. The chief town is Rewah, which is a populous place, situate on the small river Bichanuddy, rising twenty miles eastward, and joined by the Behanuddy just above the town. The streams run immediately under a large fort in the capital, which includes the residence of the rajah, and the houses of the most respectable inhabitants. It stands in lat. 24° 37' N., and 81° 25' east longitude; distant 126 miles north-east of Benares. Bogalcund has its own independent rajahs, who formerly exercised considerable influence over India affairs, and have afforded an asylum to some of the most powerful princes of the East in adversity. Here the family of Humayoon, emperor of the Moguls, retired from Delhi, on a usurpation of his throne in 1542, and the great Acher, his son, was born soon after. The empress having arrived was taken immediately, we are told, in labor; but the astrologers having determined that the child, to be fortunate, must be born a little later, the mother was actually suspended by the legs two hours to retard the birth!

BOGGLE, *v. & n.* } Johnson says from
 BOG'GLER, } Dutch, *bogil*, a spectre;
 BOG'GLISH. } a bugbear; a phantom;
 but he does not tell us how *bogil* obtained this meaning. We are inclined to the etymology of

Skinner, adopted by the Ency. Met., that boggle is the diminutive of bog, and that its definition is, to stick in the mud; laboring in vain to disembarass yourself; to proceed as if every moment sinking in a bog, or apprehensive of it: hence to boggle is to attempt a thing clumsily; to be perplexed and to hesitate. The idea of a spectre or bugbear connected with the bog, is probably derived from the luminous vapors and exhalations which are general in bogs, and which often assume fantastic shapes, sufficient to alarm and terrify the ignorant rustic who may approach them at night.

You *boggle* shrewdly; every feather starts you.

Shakspeare.

You have been a *boggler* ever.

Id.

And never *boggle* to restore

The members you deliver o'er,

Upon demand.

Hudibras.

Nature, that rude, and in her first essay,

Stood *boggling* at the roughness of the way,

Used to the road, unknowing to return,

Goes boldly on, and loves the path when worn.

Dryden.

The well-shaped changeling is a man that has a rational soul, say you? Make the ears a little longer, and more pointed, and the nose a little flatter than ordinary, and then you begin to *boggle*. *Locke.*

BOGIN (John Baptist), a native of Turin, was born in 1701. At seventeen he was made a doctor of laws, and in 1730, Victor Amadeus raised him to be high chancellor. Under Charles Emmanuel he also filled several high offices with distinguished talent and success. Piedmont and Sardinia are indebted to him for many useful institutions. He was however dismissed after the death of Charles Emmanuel. He died in 1784.

BOGLION BOGLIUNO, or **BULLION**, a market town of Austria, in the province of Istria, county of Mitterburg, situated in a hilly country where abounds in corn, oil, and wine. Twenty-seven miles S. S. E. of Trieste.

BOGLIPORE, or **BIAGELPORE**, a considerable district of the province of Bahar, Hindostan. It is nearly equally divided by the Ganges, and part of it is very productive. About the year 1780, Mr. Cleveland, a British judge and collector, first introduced civilisation among them. The country abounds with tigers, and other wild animals; very fine honey is also found.

BOGLIPORE, the capital of the above district, on the south bank of a branch of the Ganges, is about two miles from that river. It is handsome and flourishing, being the residence of all the civil officers, and has an extensive manufacture of mixed silk and cotton cloths.

BOGMARUS, or **VOGMERE**, in ichthyology, the Virgin of the Gulphs, so called by Schneider, a genus of fishes, of the order acanthopterygii, family tænioides. Its characters are: dorsal fin extends along the whole back; the pectoral fins are small; and the tail consists of four radii. No anal or ventral fins. The species are 1. *B. islandicus*, about four feet long, with the body long and compressed, covered with deciduous silvery scales; the vertex parallel with the back, broad above the nostrils, and keel-shaped near the spine: from the middle the body begins to diminish, and terminates in a sharp tail. 2. *B.*

lanceolatus, Cuv.; regalec lanceolé, Lacep.; lance-tailed vogmere. This fish is described by Lacépède in his genus regalecus, but it cannot belong to that as it does not possess any ventral fins.

BOGODUCHOW, a considerable town of Charkov, in European Russia. The occupation of the inhabitants is the tanning of leather; the population 6800. Here are held six yearly markets. Eighty-four miles N. N.W. of Charkov.

BOGOMILI, or **BOGARMITÉ**, in church history, a sect of heretics, which arose about the year 1179. They held that the use of churches, of the sacrament of the Lord's Supper, and all prayer, except the Lord's Prayer, ought to be abolished; that the baptism of Catholics is imperfect; that the persons of the Trinity are unequal; and that they oftentimes made themselves visible to those of their sect.

BOGORODITZK, a town of Russia, in Europe, the capital of a circle in the government of Toula. It consists of eight principal and six cross-streets, and has an imperial castle, with a garden, four churches, 400 houses, and 5000 inhabitants, sixteen miles east of Toula, and 456 S. S. E. of St. Petersburg.

BOGOTA, **Rio De**, or **FUCHA**, a large river of South America, in the kingdom of New Granada, rising near the city of Santa Fè. After watering the elevated plain on which that city stands, it forms the cataract of Tequendama. A little above the fall, the river is about 140 feet wide, but it suddenly contracts to the width of forty feet before it reaches the crevice. Here, by a kind of double bound, the water is precipitated downwards nearly 600 feet perpendicular; from the yawning gulf, a column of vapor rises like a thick cloud, and may be seen at Santa Fè, a distance of fifteen miles.

BOGOTA is also a river in the kingdom of Quito, which unites itself with the Santiago and San Miguel, before they form the port of Limona in the Pacific Ocean.

BOGWANGOLA, a large and flourishing town of Bengal, in the district of Moorshedabad, on the south bank of the Ganges, which encroaches upon it rapidly; the houses are therefore entirely constructed of wood, bamboos, and mats. It is chiefly inhabited by the agents of the merchants of Moorshedabad, and is the depôt of great part of the commodities destined to or from that city during the dry season.

BOHADDIN, or **Bon-A-Ldynn**, an eminent Arabian writer and statesman, better known in the East under the appellation of Ibn Sjeddad, the son of Sjeddad. He was born at Mossul in the year 539 of the Hegira, 1145 A. D., and became early eminent in the study of the Koran, as well as that of jurisprudence. At the age of twenty-seven, he became repeater or lecturer at Bagdad; and soon after professor in a College founded at Mossul. In 1187, he made the pilgrimage to Mecca, and proceeded to visit Jerusalem and Hebron. In passing through Damascus, he was sent for by the sultan Saladin, then waging war against the enemies of the faith. He, therefore, composed a treatise on The Laws and Discipline of Sacred War; and made a collection of all the passages in the Koran and books

of traditions, in which the extermination of infidels is recommended. This work, on his return, he presented to Saladin, who received it with great favor. Bohaddin afterwards wrote several works on Jurisprudence, Morals, and Divinity; and finally, a Life of Saladin, of which the learned Schultens published an excellent edition in folio, at Leyden, 1732.

BOHAR, in ichthyology, a species of sciæna, a native of Arabia. The color is red, lineated, and clouded with white. The body is of an oblong form, and covered with smooth scales; there are two large spots on the back, which disappear after the fish is dead. There are two short cirri: in the upper jaw two subulate teeth, projecting beyond the lower. The lateral line runs nearer to the back. Dorsal and anal fins rounded behind, and the unarmed part of both scaled, the spines of the latter growing gradually larger: ventral connected by an intermediate membrane. Tail bifid.

BOHÈMIA, an ancient kingdom of the Austrian empire, in the centre of Germany, so called from the Boii, a branch of the Celts, who passed from Gaul into Germany about 600 years before the Christian era. Having proceeded to the frontiers of Quadi and Sarmatia, they settled themselves in that part of the ancient Hercynian forest, under their leader Segovesus. About the period of the birth of Christ, they were conquered by the Marcomanni, who held the country till the sixth century, when they were driven out by the Slavonians, under a leader named Czechow, after whom the Bohemians still call themselves Czechowians, and their country Czechy. Some writers state that they at this time received the knowledge of Christianity.

Bohemia is situated between latitude 48° 30' and 51° 5', and bounded by Saxony and Silesia on the north, Bavaria and Austria Proper on the west and south, and Moravia on the east. It is of an oval figure, comprising about 20,245 square English miles, and a population, according to the latest enumeration, of 3,203,300 individuals, or about 158 persons to each square mile. It once included, besides the present kingdom, Moravia, Silesia, and Lusatia. In 1751 Bohemia was divided into sixteen circles, exclusive of Prague, which ranks as a separate district, each of which derives its name from its chief town. The following was their extent and population in 1811:—

Circles.	Square miles.	Population.
Prague, district of	55	81,966
1. Beraun . . .	1406	131,770
2. Biczow . . .	1053	195,117
3. Budweis . . .	1670	169,025
4. Buntzlau . . .	1617	313,592
5. Chrudim . . .	1362	241,786
6. Czaslau . . .	1298	178,259
7. Elnbogen . . .	1000	188,472
8. Kaurzim . . .	1037	142,805
9. Klattau . . .	872	139,265
10. Königsgrätz . . .	1287	262,802
11. Leutmeritz . . .	1349	291,138
12. Pilsen . . .	1596	168,943
13. Prachin . . .	1830	209,416
14. Rakonitz . . .	1064	133,015
15. Saat . . .	819	118,086
16. Tabor . . .	1277	159,639

The Moldau, flowing from north to south, divides Bohemia into two parts, and, passing the capital, falls into the Elbe. Werner thinks that the site of this kingdom was once occupied by a great inland sea, the waters of which finally forced their way through the rocky pass by which the Elbe now passes the Bohemian frontier into Saxony. This is at the present time its principal river, receiving in its course the tributary streams of the Moldau, the Auxa, the Crelitz, the Orlitz, the Dobrawa, the Iser, and the Eger. The surface of Bohemia is one general and continued declivity towards the centre. Round the north-east frontier stretch the Sudetic chain and the Riesengebürge; the mountains of Moravia encompass it on the south and south-east; the Bohmerwald (a part of the ancient Sylva Hercynia), rises on the west, and the Erzgebürge on the north. No stagnant waters or marshy lands, are found. Its immense margin of mountains is composed of granite, upon which mica, gneiss, slate, porphyry, and other primitive rocks are deposited; on which again, rest limestone, sandstone, floatz, and other species of later formation. The highest summits of the Bohmerwald are covered with a kind of brushwood; but the upper parts of Riesengebürge are almost bare, and the snow remains in hollows during the whole year. The loftiest and most naked branch of this chain is called, in German, Riesengebürge, the mountains of the giants. The Sudetes are a noble rampart of mountains, surmounted by mountains placed almost transversely. Their principal masses are composed of granite, round which, as a nucleus, are formed strata of porphyry, and mica and clay slate. On the south-east the granite disappears, and the mountains dwindle. This intermediate chain, which connects the Sudetes with the Carpathian Alps, is called by a general name Moravian Hills, or Gezenkergebürge, lowered mountains. The mountains of Carlesberg and Maunhast gird Bohemia on the south, and touch, on the west, the hills named the Forest of Bohemia (Bohmer-Wald), which are much less elevated than the Sudetes, and are clothed with verdure to the top. At the western extremity of Bohemia, the Fichtelgebürge, or mountain of pines, rises to the height of 3630 Rhenish feet, and forms a common centre to the three chains which separate Francozia from Saxony, as well as Bohemia from Saxony and Bavaria. Between Saxony and Bohemia, run the mountains named Erzgebürge, or metallic mountains, which join the Sudetes in Lusatia. On the Saxony side, these mountains rise to the height of 3600 or 3700 feet above the level of the sea. On the Bohemian side, they present a great number of basaltic elevations ending in peaks, which give a most beautiful and picturesque finish to this part of the scenery.

The climate of Bohemia is said to be delightful; and the spring season of Italy itself not more enchanting. Neither summer nor winter occur in extremes; the same mountains that shelter it from winds, afford those salubrious streams which refresh and fertilise every thing around them. The soil of its noble plains is also extremely fertile, supplying not only its numerous population, but the greater part of

Silesia and Saxony, with grain. Hops, flax, and hemp, are also grown in considerable quantities; as well as many kinds of superior fruit. The first of these articles is nowhere excelled: and vineyards, upon a small scale, are interspersed through the country. From the Statement of the Extent and Produce of arable lands in Austria, made by M. Blumenbach in 1816, it appears that the extent of arable land in this country is 2,828,437 joch, and taking away one-third as fallow land, 1,885,618 joch remain, whence the average of each joch will be at least thirteen metzen. The joch is about an English acre and a half, and a metzen $1\frac{3}{4}$ Winchester bushels; by dividing, therefore, $22\frac{3}{4}$ by $1\frac{1}{2}$, we shall have $15\frac{1}{2}$ bushels as the average produce of each English acre. The entire yearly average, from 1785, has been 1,874,241 metzen of wheat, 10,067,145 metzen of rye, 4,149,429 metzen of barley, and 8,278,546 metzen of oats. The extent of the Bohemian vineyards is stated by this writer at about 4408 joch, and the produce at rather less than six eimers per joch, which gives 26,448 eimers for the whole produce. M. Blumenbach states the average return for the above period to have been annually 26,326 eimers. Now, the eimer being equal to fifteen English wine gallons, this is only about sixty gallons, or less than a hoghead for each English acre.

Excellent cattle are bred here, and very valuable horses. The breed of sheep also has been decidedly improving of late years, but their numbers seem to be decreasing. In 1813 they stood thus:—

Oxen	257,779
Cows	617,476
Horses	119,122
Sheep	1,090,241

The whole produce of the Austrian empire in the last article of stock not being more than 2,669,627. Here are also vast herds of swine, and domestic and wild fowl, and all sorts of game in abundance.

The minerals of Bohemia are also important. Gold has been found in various parts, but has not been worked with much success. The richest silver mines were once at Kuttenburg, but these are now inundated. From Joachimstahl, the district of Elnbogen, and the circles of Pilsen and Prachin, are yielded about 2400 marks, of eight ounces, annually. Of iron, diffused through the mountains of Bohemia, 200,000 quintals; a little copper and lead from Elnbogen, and valuable tin from Bohemia proper. The revenue of the mine production, altogether, is taken at about £100,000 yearly, a million florins of Vienna. Other minerals afforded by the country are, antimony, arsenic, bismuth, cobalt, zinc, sulphur, and black and brown coal. Alum is also abundant, and in some parts limestone, and porcelain clay. There are also rich quarries of beautiful marble, especially at Tesin in the circle of Beraun. Jasper is found in considerable quantities, as well as alabaster, asbestos, serpentine. Several gems are found in Bohemia, viz. sapphire, topaz, precious garnet, hyacinth, and pyrope. The sapphires are small, and of but little value; the topazes scarcely equal those of Saxony; the pre-

cious garnet has a good fire and water; the hyacinths are small, and not fit for the purposes of jewellery; and the pyrope, (the carbo pyropus of the ancients), is remarkable for its fine deep blood-red color and great transparency, and is in high estimation. Very fine agates also occur.

Linen is an article of much importance in Austria; and Bohemia and Moravia are the principal seats of the manufacture. In the year 1801 the number of spinners of flax in Bohemia alone, amounted to 230,000; the weavers to 85,000; and, by the calculations made in 1808, they appeared to be increasing. The manufactures include, in addition to linen, woollens, cottons, silks, cambrics, thread, laces, hats, paper, ribbands, stockings, hardware, porcelain, mirrors, fire-arms, and tin works of all descriptions. The commerce of Bohemia is fettered by the soccage of the towns, and the want of great points of concentration; still there are few countries where the balance of trade is more uniformly favorable. It is said, that there is also another circumstance extremely prejudicial to the interests of the natives; the disproportionate number of Jews, and, in some districts, of Greeks and Armenians, who have engrossed almost all the trade of the country. 'It is a demonstrable and notorious fact,' says Schreyer, in his work on the Commerce and Manufactures of Bohemia, 'that in every town, and in every place where the Jews are established, the Christian tradesmen are reduced to the most wretched condition, and that the Jews have enriched themselves at their expense. The traffic is principally in its own manufactures, and the countries to which Bohemia principally exports, are Austria, Spain, Portugal, Italy and Turkey. The elegance of its cut glass ware, we should here add, occasions such a demand for it, that it is sent not only to most of the European nations, but to America. There is a chamber of commerce resident at Prague, subordinate to that of Vienna. This chamber consists of a president, who is, at the same time, a privy counsellor, of six counsellors, and some other officers. Subordinate to them are eight inspectors of the provinces, who make regular tours through the districts assigned them, examine the various factories, and give in a report of them to the chamber.

No part of the Austrian dominions, except perhaps some parts of Italy, is equally populous. The number of inhabitants in 1789, amounted to 2,852,463; in 1811 to 3,137,495: of the latter number 1,429,725 were males, and 1,684,543 females; yet it is asserted, and desolate towns, castles, and villages, confirm the account but too well, that Bohemia is in this respect inferior to what she was in former days, before religious and political persecution drove thousands of her inhabitants from their homes.

The emperor of Austria is at present king of Bohemia, and the general government consists of six courts. 1. The Council of Regency, or great Royal Council, which consists of the supreme Judge, or Burgrave of Bohemia, with eighteen Lieutenants of the king, and other assessors. 2. The superior Chamber of Justice in which the Grand Master of the kingdom presides. 3. The Chamber of fiefs. 4. The new Tribunal,

for judging the appeals of the German vassals, having a president, vice-president, and other officers. 5. The Royal Chamber of finances, under the superintendence of a president and vice-president; and the Chancery, which always follows the Court, and is consequently established at Vienna. The States or Legislative body, consist of the nobles, clergy, and deputies, from several towns, which meet annually at Prague, the capital, rather to receive the orders of the Court than to enact any legislative measures. There are also Courts of Justice established in each of the circles, with the privilege of appeal to the High supreme Court at Prague.

The Bohemian nobility are not numerous, but are on the whole in better circumstances than in other parts of Germany: there are reckoned ten princes, 110 counts, 82 barons, and 238 knights. The peace establishment of the army consists of between 50,000 and 60,000 men; all matters relative to which, are under the management of a military tribunal instituted at Prague. The annual revenue is about £2,000,000 English money. The number of towns in the whole kingdom was, in 1811, 266, burghs 295, villages and farms 11,892, houses 521,700: there are also 41 decayed towns and villages, and 516 ruined castles. Its only mercantile towns are PRAGUE and TOEPLITZ, which see.

The inhabitants are in general brave, handsome, and active; bearing a general resemblance both in appearance, manner, and language, to the Poles. Dubravius, bishop of Olmutz, in the sixteenth century, thus strikingly describes them:—As this land is under the influence of the lion, so its inhabitants have the qualities of that noble animal. Their high breast, their sparkling eyes, their long and thick hair, their vigorous limbs, their strength, their courage, their resistance to obstacles, every circumstance shows evidently that the lion is their star, as he is their emblem.' They are beyond comparison the best of the imperial troops. The language is a dialect of the Slavonic, nearly allied to the Polish, but containing more words of German origin. They formerly used the Russian character, but Latin has been now in use for many centuries. The Austrian government has made frequent attempts to supplant the Bohemian by the German language, particularly by the appointment of German teachers in the schools; but though German is the language of all the courts and public business, and spoken in all the towns, the Bohemian must still be considered as prevailing.

The Roman Catholic is the established religion, and after the banishment of the Hussites and Protestants in the fifteenth and seventeenth centuries, was almost the only one in the kingdom, except that of the Jews. It was not indeed till the edict of toleration passed by Joseph II. in 1781, that the Protestants here declared their numbers, or enjoyed the free exercise of their worship. The total number of dissenters from the church of Rome is now about 100,000, of whom 46,000 are Jews, 34,000 Calvinists, 11,000 Lutherans, and the remnant of the Greek church and other persuasions. The Jews have synagogues in several places, an university at Prague, and eighteen rabbins stationed in dif-

ferent parts of the country. The Catholic church is under the archbishop of Prague, who has for suffragans the bishops of Leutmeritz, Konigsgratz, and Budweis; and is ex-officio legate of the apostolic see.

While Christianity, as we have seen, is supposed to have been first introduced into Bohemia about the sixth century; the inhabitants seem to have had but an imperfect acquaintance with it till the middle of the ninth, when the Greek religion and customs were adopted by them, and continued to be maintained until Bolislaus the Good re-established the Romish domination. Bohemia will ever be famous in the annals of Protestantism. Here the reformation of church abuses was nobly begun in the fourteenth and fifteen centuries, by John Huss and Jerome of Prague; and these courageous champions of the primitive faith were brought to the stake, at the council of Constance in 1415. Their adherents were at the same time put under the ban of the empire, and a bloody war ensued. Previously to the great reduction of monastic institutions made in the Austrian dominions by Joseph II. there were in Bohemia no less than 165 of these foundations, whereof only about one half now remain. The establishments for education and literature have, on the other hand, been greatly augmented and improved. In 1785 there was erected an Academy of Sciences and an university at Prague, as well as fifteen academies for youth in different parts of the kingdom: there are moreover twenty high schools, above 2200 town and country schools, 200 schools of industry, and forty ladies' schools. An Agricultural Society was established in 1766, and there are several other institutions for the promotion of the arts, particularly music, in which the Bohemians have been long celebrated.

The greatest disadvantage of this beautiful country, is the extreme depression of its peasantry, and the entire want of a middle class of society. Latterly the peasantry of the imperial domains have been liberated from their old feudal thralldom, and it is hoped, that the Bohemian nobles may gradually be induced, by their own evident interest, to follow the example of their sovereign: but generally the whole of its inhabitants are divided into the abject poor, or the petty kings of the land. See *Raymond's Tableau Statistique de la Monarchie Autrichienne*, 1809; *Riesbeck's and Neale's Travels*; and *Hussel's Staats und Address-Handbuch der Teutschen Bundes-Staaten*, 1816, &c.

BOHEMIA, a short navigable river of the United States, in the eastern shore of Maryland. It rises near the divisional line of the state of Delaware, and, after running west about six miles, turns W. N. W. and falls into the Elk, about four miles above Turkey-point.

BOHEMIAN BRETHREN, a sect of Christian reformers which sprung up in Bohemia in 1467. They treated the church of Rome as the whore predicted in the Revelation; and rejected the sacrament of the Romish church; and chose laymen for their ministers; they held the Scriptures to be the only rule of faith, and kept no festivals but Christmas, Easter, and Whitsuntide. In 1504 they were accused by the Catholics to

king Ladislaus II. who forbade them to hold any meetings either private or public. When Luther declared himself against the church of Rome, the Bohemian brethren endeavoured to join his party. At first that reformer showed a great aversion to them; but the Bohemians sending their deputies to him in 1523, with a full account of their doctrines, he acknowledged that they were a society of Christians, whose doctrine came nearest to the purity of the gospel. They published another confession of faith in 1535, in which they renounced anabaptism, which they at first practised: upon which a union was concluded with the Lutherans.

BOHMERWALD, the Bohemian forest, a ridge of mountains in Germany, penetrating Bavaria Proper on the west, and Passau. It separates the former from the Upper Palatinate, and is almost entirely covered with wood, particularly on the Bohemia side. Here are also a number of iron works, glass houses, &c. The highest points are the Arber and Rachelberg.

BOHOL, or Bool, one of the southern Philippine isles, discovered by Magellan, 1621. It is about thirty-two miles in length, and twenty in breadth, and has been said to yield some gold. The chief town is Loboe. Distant ninety miles north of Mindanao.

BOHUN (Edmund), was born at Ringsfield, Suffolk, and was a member of Queen's College, Cambridge, but quitted the university, on the breaking out of the plague in 1666, without taking a degree. He entered at the Temple, and in 1675 took out his *dedimus* as a magistrate for the county of Suffolk, but having rendered himself obnoxious to James II. that monarch removed him from the commission. On the accession of William and Mary his name was replaced. His works are, *A Defence of king Charles II's Declaration*, 4to; another of Sir R. Filmer against Algernon Sydney, and a preface to the former author's *Patriarcha*, in 8vo; two dictionaries, one *Geographical*, in 8vo, the other *Historical, Geographical, and Poetical*, in folio; *The Justice of Peace's Calling*, 8vo; a *History of the Desertion*, &c. 8vo, 1689; *A Life of Bishop Jewel*, and a *Character of Queen Elizabeth*, both in 8vo. He also wrote a *Treatise on the doctrine of Passive Obedience*, in 4to., and translated Puffendorf's *Germany*, Sleidan's *History of the Reformation*, and Wheare's *Mode of Reading History*. He died some time in the reign of queen Anne.

BOHUS, or BAUUS, a government of West Gothland, now forming the greater part of the province of Gotheborg, Sweden. It bears the title of duchy, and extends in length about 112 English miles from the fortress of this name to Frederickshall in Norway; its greatest breadth is eighteen English miles. It is bounded on the east by Elfsborg, and on the west by the Scagerrack, and contains thirteen bailiwicks. It is for the most part level, and diversified by fertile meadows, forests, lakes, and rivers. Of the last, the most considerable is the Gotha-Elf, which falls into the North Sea near Kongelf. The inhabitants maintain themselves by agriculture, the manufacture of salt, fishing (particularly herrings), and a trade in wood, cattle, hides, tallow,

pitch, and lime. It includes the valuable islands of Oroust and Tjoern.

BOII, a people of Gallia Celtica, who inhabited the country extending from the Ligeris, or Loire, to the Elaver, or Allier; whence came the Boii of Gallia Cisalpina, whose migration is related by Livy.

BOIL', *v. & n.* } Fr. *bouillir*; Lat. *bullio*.

BOILING, } To be agitated by heat; to

BOILER, } fluctuate with heat; to be

fervent or evanescent; to move with an agitation, like that of boiling water; to be in hot liquor; to cook by heated water; to seeth. It is, figuratively, expressive of an animated, ardent, eager state of feeling; speaking, or acting.

Nay, I'll come; if I lose a scruple of this sport let me be *boiled* to death with melancholy. *Shakspeare.*

Fillet of a fenny snake,

In the cauldron *boil* and bake. *Id.*

To try whether seeds be old or new, the sense cannot inform; but if you *boil* them in water, the new seeds will sprout sooner. *Bacon.*

In eggs *boiled* and roasted, into which the water entereth not at all, there is scarce any difference to be discerned. *Id.*

That such alterations of terrestrial matter are not impossible, seems evident from that notable practice of the *boilers* of salt-petre. *Boyle.*

While we perhaps,

Designing or exhorting glorious war,
Caught in a fiery tempest shall be hurled
Each on his rock transixed, the sport and prey
Of racking whirlwinds, or for ever sunk
Under yon *boiling* ocean, wrapt in chains;
There to converse in everlasting groans
Unrespite, unpitied, unreprieved,
Ages of hopeless end. *Milton.*

So through the mortal fruit we *boil*

The sugar's uncorrupting oil;

And that which perished while we pull

Is thus preserved clear and full. *Marvell.*

That strength with which my *boiling* youth was
fraught,

When in the vale of Balasar I fought. *Dryden.*

Well I knew

What perils youthful ardour would pursue,
That *boiling* blood would carry thee too far. *Dryden.*

If you live in a rich family, roasting and *boiling* are below the dignity of your office, and which it becomes you to be ignorant of. *Swift.*

Suppose the earth removed and placed nearer to the sun, in the orbit of Mercury, there the whole ocean would *boil* with extremity of heat. *Bentley.*

A few soft words and a kiss, and the good man melts; see how nature works and *boils* over in him. *Congreve.*

Then headlong shoots beneath the dashing tide,

The trembling fins the *boiling* waves divide. *Gay.*

Borne by the outrageous flood

To distance down he rides the ridgy wave,

Or whelmed beneath the *boiling* eddy sinks. *Thomson.*

BOILEAU, SIEUR DESPREAUX (Nicholas), the celebrated French poet, was born at Paris in 1636. His relations first designed him for the law, and he was admitted advocate. But he imbibed a strong aversion for the bar, and commenced the study of theology; but he here again could not long endure the chicanery of the school divinity; he therefore renounced the Sorbonne, and devoted himself to the belles lettres. Like a late noble poet of our own country, Boileau

commenced his career as a satirist of his contemporaries, and, at the age of thirty, published a collection of poems, attacking a host of inferior writers. The writers attacked, assailed him in return, and the duke de Montausier, and other moralists, expressed some dislike to the spirit of detraction thus aroused. Our poet now, therefore, assumed the courtier toward that noble personage, and lavished all manner of flattery on the vain-glorious Louis XIV. His ninth satire, *A Son Esprit*, is deemed a master-piece of keenness and polished irony. His satires were followed by his *Art of Poetry*, and, in 1674, by his mock-heroic poem of the *Lutrin*, founded on a trifling dispute between the treasurer and chanter of the holy chapel. These poems thoroughly established his reputation, and secured the good graces of the court, who gave him a pension, and the exclusive privilege of printing his own works. He was also appointed, in conjunction with Racine, royal historiographer. His ode on the taking of Namur was a result of this appointment; but to lyric poetry his genius was not adapted. At court, he now appeared, it is said, with manly freedom, and often ventured upon observations unusually bold. When the king asked his opinion of a few verses which he had composed, 'Nothing, Sire, is impossible to your majesty,' he replied; 'you wished to make bad verses, and you have succeeded.' In 1684 he was received into the French Academy, and the Academy of Inscriptions. He was as remarkable for his integrity, his innocence, and diffusive benevolence, as for the keenness of his satires. He died of a dropsy on the 2d of March, 1711, in the seventy-fifth year of his age. There are two actions recorded of Boileau, which sufficiently prove that this inexorable satirist had a most generous and friendly heart. When Patru, the celebrated advocate, who was ruined by his passion for literature, found himself under the painful necessity of selling his extensive library, and had almost agreed to part with it for a moderate sum, Boileau gave him a much superior price; and, after paying the money, added this condition to the purchase, that Patru should retain, during his life, the possession of the books. The other instance is yet nobler: when it was rumored at court, that the king intended to retrench the pension of Corneille, Boileau hastened to Madam de Montespan, and said, that his sovereign, equitable as he was, could not, without injustice, grant a pension to an author like himself, just ascending Parnassus, and take it from Corneille, who had so long been seated on the summit; that he entreated her, for the honor of the king, to prevail on his majesty rather to strike off his pension, than to withdraw that reward from a man whose title to it was incomparably greater; and that he should more easily console himself under the loss of that distinction, than under the affliction of seeing it taken away from such a poet as Corneille. This magnanimous application had the success which it deserved, and it appears the more noble, that the rival of Corneille was the intimate friend of Boileau. The long unreserved intercourse which subsisted between our poet and Racine was highly beneficial and honorable to both. The

dying farewell of the latter is the most expressive eulogy on the private character of Boileau: 'Je regarde comme un bonheur pour moi, de mourir avant vous,' said the tender Racine, in taking a final leave of his faithful and generous friend.

BOILING, or **EBULLITION**, the bubbling up of any fluid. The term is most commonly applied to that bubbling which happens by the application of fire, though that which ensues on the mixture of an acid and alkali is sometimes also distinguished by the same name. Boiling, in general, is occasioned by the discharge of an elastic fluid through that which is said to boil; and the appearance is the same, whether it is common air, fixed air, or steam, that makes its way through the fluid. The boiling of water is proved by Dr. Hamilton of Dublin, in his Essay on the Ascent of Vapor, to be occasioned by the lowermost particles of the water being heated and rarefied into vapor by reason of the vicinity of the bottom of the containing vessel; in consequence of which, being greatly inferior in specific gravity to the surrounding fluid, they ascend with great velocity, and lacerating and pushing up the body of water in their ascent, give it the tumultuous motion called boiling. That this is occasioned by steam, and not by particles of air or fire, as some have imagined, may be very easily proved in the following manner: let a common drinking glass be filled with hot water, and then inverted into a vessel of the same; as soon as the water in the glass begins to boil, large bubbles will be observed to ascend in the glass, which will displace the water in it, and in a short time there will be a continual bubbling from under its edge; but if the glass is then drawn up, so that its mouth may only touch the water, and a cloth dipt in cold water be applied to the outside, the steam within it will be instantly condensed, and the water will ascend so as to fill it entirely, or very nearly so. See **EVAPORATION**.

BOILING, in the culinary art, is a method of dressing meats by coction in hot water, intended to soften them, and dispose them for easier digestion. The effects of boiling are different according to the kinds and qualities of the water. Pulse boiled in sea water grows harder; mutton boiled in the same becomes softer and tenderer.

BOINITZ, a market town of Hungary, in the circle of Boinitz and county of Neitra. Here is a castle, Catholic church, and, in the suburbs, a warm bath. The circle contains five market towns. Eleven miles W. N. W. of Krennmitz.

BOIS-LE-DUC, a large town of the Netherlands, in Dutch Brabant, situated at the conflux of the Dommel and Aa, which here takes the common name of the Diest. It is called, in Brabant, s'Hertogenbosch, or simply Bosch, which has the same meaning as Bois-le-Duc, namely, the Duke's Wood, the dukes of Brabant being accustomed to take the diversion of the chase in this neighbourhood. Duke Godfrey laid the foundations of the town in the year 1184, which was finished by his son Henry in 1196, and again considerably enlarged in 1453. It is entered by four gates, and surrounded with walls, flanked by seven bastions; and can be insulated at pleasure from the rivers adjacent. It is, besides, protected by the forts of Crevecoeur, Isa-

bella, St. Anthony, and the strong citadel called Papen-Briel. The cathedral, which is dedicated to St. John, and built in 1366, is one of the finest structures in the Netherlands. It had formerly a wooden tower, which could be seen from Antwerp, but was destroyed by lightning in 1584. Four other churches have been converted into warehouses. There were formerly sixteen monasteries here; that of the Jesuits is now the governor's palace, and the rest are suppressed. The population, about 14,000, carry on a considerable trade in corn, manufacturing knives, needles, and bleaching. Bois-le-Duc suffered severely in the religious wars of the sixteenth century, and did not fall finally into the hands of the Dutch till 1629. In September, 1794, an action took place near this town, between the British and French, in which the latter had the advantage, and on the 9th October of the same year the place was invested by Pichegru, and surrendered without much opposition. In January, 1814, it was surrendered to the Prussian army under General Bulow, after a siege of some weeks duration. The bishopric of Bois-le-Duc was founded by pope Paul IV. but is now suppressed. Eighteen miles E. N. E. of Breda, and forty-two S. S. E. of Amsterdam.

BOISSARD (John James), an antiquarian, born at Besançon, the author of several collections of Roman antiquities. He had a great passion for this study; and drew with his own hand plans of all the ancient monuments of Italy. He died at Mentz, October 30th, 1602. His other principal works are, *Theatrum Vitæ Humanæ*; which contains the lives of 198 famous persons, with their portraits. A treatise de *Divinatione et Magicis Præstigiis*. These works are scarce, and esteemed by the antiquarians.

BOISSEAU, a French bushel, being the twelfth part of a septier, and somewhat less than our London peck and a half. A boisseau of wheat weighs twenty pounds; our peck of wheat-meal fourteen.

BOIS'TOUS ,	} Dutch, <i>bûsen</i> ; Germ. <i>beisin</i> . The Dutch <i>bister</i> or <i>byster</i> is furious; raging; turbulent. The German <i>beisin</i> , to pierce through; to bite like a severe biting north wind: hence boistous and boisterous; and both are applied, says the Ency. Met. to any thing turbulent, tempestuous, stormy, violent; to any thing coarse, rude, and noisy. Spenser uses it in the sense of ponderous and clumsily violent. The adjective is used by Woodward as descriptive of excessive heat.
BOIS'TOUSLY ,	
BOIS'TOUSNESS ,	
BOIS'TEROUS ,	
BOIS'TEROUSLY ,	
BOIS'TEROUSNESS .	

I am a boistous man, right thus I say. Chaucer.

He on a day in open audience

Ful boistously hath said, hire this sentence. Id.

His boisterous club, so buried in the ground,

He could not rearen up again so light,

But that the knight him at advantage found.

Faerie Queene.

By a divine instinct, mens' minds mistrust

Ensuing danger; as by proof we see

The waters swell before a boisterous storm.

Shakspeare.

A sceptre, snatched with an unruly hand,

Must be as boisterously maintained as gained. Id.

His sweetness won a more regard
Unto his place, than all the *boisterous* moods
That ignorant greatness practiseth. *Ben Jonson.*

Yet oft in words he spends his *boisterous* threat;
That his hot blood, driven from the naive seat,
Leaves his faint coward heart empty of lively heat.
Fletcher's Purple Island.

As good for nothing else, no better service
With those thy *boisterous* locks, no better match
For valour to assail, nor by the sword
Of noble warrior, or so to stain his honour,
But by the barber's razor best subdued.
Milton's Samson Agonistes.

God into the hands of their deliverer
Puts invincible might,
To quell the mighty of the earth, the oppressor,
The brute and *boisterous* force of violent men.
Milton.

As when loud winds a well-grown oak would rend
Up by the roots, this way and that they bend
His reeling trunk, and with a *boisterous* sound
Scatter his leaves, and strew them on the ground.
Waller.

Another faculty of the intellect comes *boisterously*
in, and wakes me from so pleasing a dream. *Suiff.*

BOKHARA, a city of Tartary in Asia, and capital of Great Bukharia, situated one days journey to the north of the river Jehun, or Amu. In 1219 it was besieged by Jenghiz Khan. At that time, besides the city-walls, which were very strong, Bokhara had an outward enclosure twelve leagues in compass; which shut in not only the suburbs, but also many pleasant seats and farms watered by the river Soghd, from whence the ancient Sogdiana took its name. The Mogul army arrived before the place in July, and continued the siege during the following winter. In March, 1220, they forced the outer wall. Sultan Mohammed had left in the city a very numerous garrison under the command of three generals, who now made a sally at the head of 20,000 men: but, being repulsed with great loss, their courage failed them; and, returning into the city by one gate, they passed out by another with their families, hoping to escape by the darkness of the night. Their design, however, was discovered, and being pursued by a detachment of 30,000 Moguls, they were overtaken at the Amu, and after a bloody dispute, were almost all cut to pieces. Meantime, Jenghiz Khan, being informed of the confusion into which the city had been thrown by the desertion of the garrison, ordered an attack to be made on all sides simultaneously; but while he was preparing for this, the magistrates and clergy went out and presented him with the keys. Jenghiz Khan granted them their lives, on condition that they discovered all who should be suspected of being in the sultan's interest; which they promised to do upon oath. The young people, however, who were displeased with the surrender, retired with the governor to the castle, which was very strong, and resolved to defend it to the last extremity. Jenghiz Khan, having taken possession of the town, entered on horseback to the great mosque, and taking up the Koran threw it under the feet of his horses. Some days after, having assembled the principal people, he addressed them from a pulpit erected for that purpose in his camp, mentioned the per-

fidious behaviour of the sultan towards him, and told them that God had sent him to rid the world of such men. He testified his satisfaction for their having freely furnished his army with necessities; and promised to restrain his soldiers from plundering, but commanded them to deliver up what they had hidden. Notwithstanding their strict compliance with this requisition, the tyrant soon after caused the city to be burnt to the ground, on pretence that some of the sultan's soldiers were concealed in it. The castle surrendered at discretion soon after; and was also demolished. Bokhara continued in ruins for some years, but at length Jenghiz ordered it to be rebuilt. It is now large and populous; and is the residence of a khan, who is altogether despot. The town is seated on a rising ground, with a slender wall of earth and a dry ditch. The houses are low, built mostly of mud; but the caravansaries and mosques, which are numerous, are all of brick or stone. The bazaars or market places, which have been stately buildings, are, with the trade of the place, greatly decayed. Great numbers of Jews and Arabians frequent this place, though they are much oppressed and frequently deprived of all their property by the khan or his attendants. At best they pay heavy taxes, and it is almost criminal to be rich. The inhabitants are chiefly employed in manufactures of cotton yarn, calico, and soap. The city is a famous school for the Mahommedan priesthood; and the population has been said to amount to 1,100,000. See **BUKHARIA**, **GREAT**.

BOL (Ferdinand), a celebrated painter of history and portraits, born at Dort in 1611, and educated at Amsterdam. He studied in the school of the celebrated Rembrandt Gerretsz, and imitated the style of his master with success, both in pictures and engravings. Bol's etchings are bold and free. The lights and shadows in them are broad and powerful, which renders the effect striking; but they want that lightness of touch and admirable taste, which those of Rembrandt possess. Bol died at Dort, the place of his birth, in 1681, aged seventy.

BOLABOLA, or **BORABORA**, one of the Sandwich isles, about twenty-four miles in circumference. It has a very lofty double peaked mountain in the centre; is almost barren on the east side, but has trees and bushes on the rocky parts of the west. Along the coast is a border of low fertile land, covered with the bread-fruit and cocoa-nut trees, which are also seen on many of the surrounding islets. This is a populous island, but there is only one harbour in it.

BOLCA, **MONTE**, a hill or mount in the neighbourhood of Verona, in the north of Italy, celebrated for the abundance and remarkable variety of the organic remains which it exhibits, as well as for the striking relations these bear to minerals of volcanic origin. This spot has long attracted the attention of philosophic enquirers; various collections of its petrifications have been made, and a considerable number of laborers occasionally employed in digging and preparing specimens. The formation of this hill is peculiar to itself; it consists of various substances, among which are marle, spar, basalt; coal and amber; marine plants, insects, fishes, and the remains of

terrestrial animals in a state of petrification. Connected with these, we find basaltic columns, scoria, lava, and other volcanic productions. The petrified substances do not lie in horizontal strata, but the masses of stone wherein they are contained are imbedded in the sides of the hill. The stone (in which the fishes are enclosed) is wholly calcareous, of a light color, of a dull though fine grain, and entirely destitute of any crystalline or sparry appearance. Some beds consist of a range of certain species, possessing a considerable similarity; while in others, animals of the most opposite habits, and inhabiting different regions of the globe, as well as different elements of nature, are strangely brought into contact, and confusedly blended in one heterogeneous mass. Corals, shell-fish, sea and river fish of various kinds; insects, bones of different species of birds, remains of elephants, bears, and other quadrupeds, requiring for their existence different climates, are here united in extraordinary assemblage. The *chætodon mesaleucus*, lately taken near the shores of Japan, and in the African seas, has also been found in a perfect state in the rocks of Bolca; as well as the *chætodon argus*, bearing a perfect resemblance to those caught in the rivers and stagnant lakes of India. The American *cimex* has also been discovered here. A young shark, now preserved in a cabinet, merits particular observation. It is only twenty-five inches in length, wanting a small portion of the tail, and four in breadth. The ravenous nature of the animal is disclosed by the contents of its stomach, which exhibit a quantity of sea crabs, in a half digested state. There have also been discovered the skeletons of two fishes imprinted on the same stone; one of which has seized the head of the other, and seems in the act of swallowing it. However desirous we may be to enter into a more minute description of this hill, and to state the various theories that have been proposed to account for its formation, our limits will not permit us, and we must refer our readers to the more extensive works of Bozza, Spada, Pini Testa, and Fortis, as also the *Societas Physicorum Veronensis*, *Ittiolitologia Veronese del Musæo Bozziano*.

BOLD', <i>v. & adj.</i>	} Eng.-Sax. bald, says Dr. Johnson; byldan, says Tooke; both have nearly the same signification: they are applied to the strength and firmness of a well-compact, consolidated building; to any thing firmly constructed; prominent and powerful, whether in nature or art, as a bold coast; or in statuary, a bold figure. The adjective metaphorically describes what is fearless, dauntless; spirited; courageous; magnanimous; intrepid. It is however frequently used in a bad sense, to signify temerity, and whatever is daring, audacious, and impudent. To bold or bolden, is to inspire, to give confidence.
BOLD'EN,	
BOLD'FACE,	
BOLD'FACED,	
BOLD'HEDE,	
BOLD'LY,	
BOLD'NESS.	

ing; to any thing firmly constructed; prominent and powerful, whether in nature or art, as a bold coast; or in statuary, a bold figure. The adjective metaphorically describes what is fearless, dauntless; spirited; courageous; magnanimous; intrepid. It is however frequently used in a bad sense, to signify temerity, and whatever is daring, audacious, and impudent. To bold or bolden, is to inspire, to give confidence.

The wicked flee when no man pursueth; but the righteous are bold as a lion. *Proverbs.*

Thou dranke, eke, of his vessels *boldly*,
Thy wif, eke and thy wenches, sinfully
Dranke of the same vessels *sondry* wines;

And heried false goddes, cursedly;
Therefore to thee yshapen ful gret pine is.

Chaucer's Canterbury Tales.

And as she lookt about, she did behold
How over that same dore was likewise writ,
Be *bolde*, be *bolde*, and every where be *bolde*;
That much she mused, yet could not construe it
By any ridling skill or commune wit.
At last she spyde at that rowmes upper end
Another yron door on which was writ,
Be not too *bold*, whereto though she did bend
Her earnest minde, yet wist not what it might intend.

Spenser.

That moderation, which useth to suppress *boldness*,
and to make them conquer that suffer. *Hooker.*

Quick inventors, and fair ready speakers, being
boldened with their present abilities to say more, and
perchance better too, at the sudden for that present,
than any other can do, use less help of diligence and
study. *Ascham's Schoolmaster.*

I am much too venturous

In t'mpting of your patience, but am *boldened*
Under your promised pardon. *Shakspeare.*

I speak to subjects, and a subject speaks,
Stirred up by heaven thus *boldly* for his king. *Id.*
Thus we may *boldly* speak, being strengthened with
the example of so reverend a prelate. *Hooker.*

Wonderful is the case of *boldness* in civil business:
what first? *Boldness*. What second and third?
Boldness. And yet *boldness* is a child of ignorance and
baseness, far inferior to other parts. *Bacon.*

He looked and saw wide territory spread
Before him, towns, and rural works between,
Concourse in arms, fierce faces threatening war,
Giants of mighty bone, and *bold* emprise *Milton.*

His distance, though it does not instruct him to
think wiser than other princes, yet it helps him to
speak with more *boldness* what he thinks. *Temple.*

Boldness is the power to speak or do what we intend,
before others, without fear or disorder. *Locke.*

I can be *bold* to say, that this age is adorned with
some men of that judgment, that they could open new
and undiscovered ways to knowledge. *Id.*

How now *boldface*! cries an old trot: sirrah, we
eat our own hens, I'd have you know; what you eat,
you steal. *L'Estrange.*

The figures are *bold* even to temerity. *Cowley.*

Which no *bold* tales of gods or monsters swell,
But human passions, such as with us dwell.

Waller.

The *boldness* of the figures is to be hidden sometimes
by the address of the poet, that they may work
their effect upon the mind. *Dryden.*

Catachreses and hyperboles are to be used judiciously,
and placed in poetry, as heightenings and
shadows in painting, to make the figure *bolder*, and
cause it to stand off to sight. *Id.*

I have seen those silliest of creatures; and, seeing
their rare works, I have seen enough to confute all the
boldfaced atheists of this age.

Bramhall against Hobbes.

BOLE, in natural history, a viscid earth, less
coherent, and more friable than clay; more
readily uniting with water, and more freely sub-
siding from it; it is soft and unctuous to the
touch; adheres to the tongue; and by degrees
melts in the mouth, impressing a light sense of
astringency. Specific gravity 1.4 to 2. It may be
polished. If it be immersed in water after it is
dried, it falls asunder with a crackling noise. It
occurs in wacke and basalt in Silesia, Hesse,
and Sienna in Italy, and also in the cliffs of the
Giant's Causeway. It was formerly much

used in medicine, particularly the Armenian and French. Several of these earths have been commonly made into little cakes or flat masses, and stamped with certain impressions; from which circumstance they received the name of *terre sigillatæ*, or sealed earths. It is often mixed with honey, and applied to childrens' mouths when afflicted with aphthæ. It forms, like all argillaceous earths, a good tooth-powder, when mixed with some aromatic.

BOLE, ARMENIAN, is of a bright red color, with a tinge of yellow. It is one of the hardest and most compact bodies of this class, and not smooth and glossy like the others, but generally of a rough and dusty surface.

BOLE, FRENCH, is of a pale red color, variegated with irregular specks of white and yellow. It is much softer than the Armenian, and slightly effervesces with acids.

BOLE OF BLOIS is yellow, lighter than most of the other yellow earths, and effervesces strongly with acids.

BOLI, SILESIA, is of a pale yellow color, and acids have no sensible effect upon it.

BOLENIÆ, or **BOLE**, in natural history, a name given by ancient writers to stones of a roundish figure, marked with several ridges and lines. They are the same with those called *brontia* and *ombria*, both being imagined to fall from the clouds in time of thunder storms; but they are really a common species of *eclinitæ*.

BOLES LAUS, I., king of Poland, was the son of Mieseslaus, duke of Poland, who, having embraced Christianity, had desired the title of king from the pope, but was refused it. Boleslaus found more favor with the emperor Otho III., whom he entertained splendidly at Gnesna, during his pilgrimage to visit the relics of St. Adelbert; and who, in return, not only prevailed on pope Sylvester II. to confer the royal dignity upon Boleslaus, but invested him with his own robes, and gave him some of the insignia of the empire, A.D. 1001. Boleslaus was a brave and liberal monarch. He repulsed the Bohemians; chastised the Moravians; punished the idolatrous Prussians, for the murder of St. Adelbert, whose body he redeemed; and re-established Stopolcus, grand duke of Russia, deposed by his brother Jaroslaus. He married Judith, daughter of Geisa duke of Hungary, by whom he had several children, and died A.D. 1025.

BOLETIC ACID. Braconnot was the first to obtain this acid. He extracted it from the expressed juice of the *boletus pseudo ignarius* described below. After boiling the juice, and carefully evaporating it to the consistence of a syrup, he digested it repeatedly in alcohol. What remained he dissolved in water, and from this solution he produced a white precipitate, by dropping nitrate of lead into it. Having washed the precipitate, he exposed it to a current of sulphureted hydrogen gas, and thus engendered two different acids; one a small portion of the phosphoric acid, the other in the form of permanent crystals, was the boletic acid, which was purified by solution in alcohol and recrystallisation. The crystals of boletic acid are prismatic, and of a white color; they require 180 parts of water at 68°, and forty-five parts of alcohol for solution. The aqueous solu-

tion reddens vegetable blues, and precipitates nitrate of lead; it also precipitates the peroxide of iron from its solutions, but not the protoxide. The solutions of nitrate of silver and mercury, when treated with the boletic acid, throw down a white precipitate. This acid unites with alkalies and earths, and thus forms salts which may be named boletates.

BOLETO LICHEN, a name given by M. Jus-sieu to a plant, which partakes of the nature of the morelle and of the liverwort, and which he has accurately described in the *Mem. Acad. des Sciences*, Paris, 1728. This plant has the smell of the common mushroom, and, when young, has a viscous liquid contained under the foldings of its head, which, when the plant is arrived at maturity, dries into the form of an extremely subtle yellow powder, which is the seed.

BOLETUS, in botany, a genus of the order of fungi and cryptogamia class of plants. Linnæus enumerates fourteen species; Gmelin 107. The following are the most remarkable:—*B. bovinus*, is frequent in woods and pastures. It is generally of a brown color, though sometimes tawny, yellowish brown, reddish brown, deep red, purple, or greenish brown. The flesh is yellow, white, or reddish. The young plants are eaten in Italy, and esteemed a great delicacy. The Germans also account them a dainty, calling them *gombas*, and *brat-bulz*. Cows, deer, sheep, and swine will feed upon this and other boleti, and are sometimes greatly disordered by them. *B. ignarius*, or touchwood spunk, is frequent on the trunks of old trees of all kinds, especially ash. This fungus is made use of in Germany and some parts of England for tinder. The Germans boil it in strong lee, dry it and boil it again in solution of salt-petre. The Laplanders burn it about their habitations, in order to keep off a species of the gadfly, fatal to the young reindeer. *Boletus, acaulis pulvinatus levis*, *poris tenuissimis* of Linnæus, has been much used by surgeons as an external styptic. Though still employed on the continent, our surgeons have not much confidence in it. *B. laricus*, the agaric of the shops, grows on old larch trees. It is an irregular spongy substance, extremely light, and of a uniform snowy whiteness. It cuts freely with a knife, and readily crumbles betwixt the fingers into a powder. It has no remarkable smell; its taste is at first sweetish; but on chewing for a short time, it proves acid, bitter, and nauseous. Agaric was formerly in great esteem as a cathartic, but it is now rejected both by the London and Edinburgh Colleges, though it still retains a place in most of the foreign pharmacopæias. Its infusion in water is yellowish, sweet tasted, and reddens vegetable blues. It contains muriate of potash, sulphate of lime, and sulphate of potash. Water boiled on agaric, becomes gelatinous on cooling; and ammonia is exhaled by the addition of lime. Resin of a yellow color, with a bitter-sour taste, may be extracted from it by alcohol. It yields benzoic acid, by Scheele's process. The strong acids act with energy on agaric, and the nitric evolves oxalic acid. Fixed alkalies convert it into a red jelly, which emits an ammoniacal smell. *B. suberosus*, or white cork spunk, grows commonly on

the trunks of birch and willow trees in England. The upper surface is quite white, generally covered with a short strong down, but sometimes smooth. The internal substance is thick, white, tough, light, and spongy, like cork.

BOLEYN (Ann), queen of Henry VIII. of England; memorable in the English history as the first cause of the Reformation, as the mother of queen Elizabeth, under whom it was completely established, and on account of her own sufferings. She was the daughter of Sir Thomas Boleyn, and born in 1507. Being taken into France at seven years of age by Henry VIII's sister, the wife of Louis XII. she remained in the service of queen Claudia, the wife of Francis I. and after the death of that princess, went to the duchess of Alençon. Becoming maid of honor to queen Catharine of Spain, Henry VIII's first wife, that prince fell violently in love with her, and, determining to make her his wife, was induced to set on foot the divorce of Catharine. He married Ann Boleyn privately upon the 14th of November, 1532, and as soon as he perceived that she was pregnant, made his marriage public. She was declared queen of England on Easter-eve, 1533, and crowned the first of June following. On the 7th of September she became the mother of queen Elizabeth; and continued to be much beloved by Henry, till the charms of Jane Seymour fired that tyrant's heart in 1536. Then his love for Ann Boleyn was changed into violent hatred: he believed, or pretended that he believed, her to be unchaste, and caused her to be imprisoned and tried. She was indicted of high treason, as an incontinent queen, according to the statute made in the twenty-sixth year of this reign: so that the law which was made for her and the issue of her marriage, was now made use of to destroy her. She was condemned to be either burnt or beheaded; and underwent the latter punishment on the 19th of May, 1536.

BOLI, a large town of Natolia, in Asiatic Turkey, the capital of a district, and the residence of a governor. It stands in a fertile neighbourhood, which supplies Constantinople with a great quantity of wood. The town is surrounded by a palisade, and contains numerous public edifices. Ruins are also seen in the vicinity, and marble fragments with Greek inscriptions are extant, half way between Boli and Jeredave, or Jerededel, from which it is distant forty miles. Seventy-four miles north-west of Angora, and 140 east of Constantinople.

BOLINGBROKE (Lord Viscount). See **ST. JOHN**.

BOLINGBROKE, a market town of Lincolnshire, in England, of great antiquity, but now in a mean condition. It is twenty-nine miles east of Lincoln. It was the birth-place of Henry IV. thence named Henry of Bolingbroke. It gives title of viscount to the family of St. John. The church was formerly very large, but the greatest part was destroyed in the civil war of Charles I. Market on Wednesday.

BOLKENHAYN, a town and castle, the capital of a circle in the principality of Schweidnitz, Silesia. It contains a Catholic and a Lutheran church, and 1350 inhabitants, who are engaged

in the manufacture and sale of linen. The circle produces abundance of cattle, wood, and pit coal, and contains 60,000 inhabitants. It is enclosed by Bohemia, and the Silesian circles of Schweidnitz, Hirschberg, Jauer, and Striegau. The number of towns is six; villages ninety-four; churches fifty. The town of Bolkenhayn is ten miles north-west of Schweidnitz, and forty south-west of Breslau.

BOLL, *v. & n.* } Germ. *bol*, any thing that
BOLLINGS. } grows round or globular;
 or whatever is made round by circumvolution;
 by winding or turning on a centre; to rise out;
 to swell out in a round form or shape. See **BALL**
 and **BOWL**.

Ghe ben *bolnum* with pride.

Wicklif. 1 Cor. chap. v.

A little *boll* or cup to sacrifice and offer unto the
 gods withall. *Holland's Livius.*

Yet Phœbus loves her still, and casting round

Her *bole*, his arms, some little warmth he found.

Dryden. Ovid's Metamorphoses.

The storm for Bertram!—and it hath been with
 me

Dealt with me branch and *bole*, bared me to the roots.

Maturin's Bertram.

BOLLARDS, large posts set into the ground on each side of a dock. On docking or undocking ships, large blocks are lashed to them; and through these blocks are reeved the transporting hawsers to be brought to the capstans.

BOLLITO, a name by which the Italians call a sea-green color in artificial crystal. To prepare it, put into the furnace a pot filled with forty pounds of good crystal, first carefully boiled and purified, without any manganese: then take twelve ounces of powder of small leaves of copper thrice calcined, and half an ounce of zaffre in powder: mix them and put them at four times into the pot, that they may the better mix with the glass; stirring them well each time of putting in the powder, lest the mixture should swell and run over.

BOLLOS, in the mines of Peru, a name given to the bars of silver procured there from the ore, by the operation of fire and aquafortis.

BOLOGNA, an ancient, rich, and populous city of Italy, the capital of the Bolognese, and the second city of the papal territories. Its ancient name was Felsina. It is five miles in circumference, and contains about 70,000 inhabitants. The streets are narrow, and the carriage roads considerably below the porticoes, or covered footpaths. Its churches and ecclesiastical buildings are the great ornaments of the place. Here is the celebrated leaning tower of Garisenda, which inclines about eight feet from the perpendicular line; and not far from it is the tower of Assinelli, built by Gerardo Assinelli in 1109, and the highest in Italy, except the cupola of St. Peter's at Rome. Its altitude is 371 feet. It is a square tower, ascended by 464 wooden steps, and leans between three and four feet from the perpendicular. In the church of St. Petronius, the coronation of Charles V., by pope Clement VII., took place in 1530. This church is 360 feet long, and 154 broad, with three handsome chapels on each side. It contains a meridian line, drawn in 1653, and renewed in 1695, which is half the length of the church, and

consists of pieces of red and white marble inlaid, about three or four inches broad. Being out of repair in 1776, they were renewed under the direction of M. Zanotti. The gnomon is eighty-three feet high, and a circular image of the sun, seven or eight inches in diameter, is admitted through an aperture in the roof. Another noble public building of Bologna is the Palazzo Pubblico, the residence of the pope's legate, the president of the council, &c. It is in the great market-place, and is of vast magnitude, containing the courts of justice and the arsenal, adorned with numerous statues and paintings. There is a large area in front, in the centre of which is a noble marble fountain. The university, supposed to have been founded in the year 433, by Theodosius, was greatly enlarged by Charlemagne, and is said to have been formerly attended by 10,000 students. It first encouraged the study of the Roman law in modern times, and received in consequence the title of *Mater Studiorum*. Here too was the seat of the celebrated Caracci's school of painting. Bologna is also celebrated in Italian history as the seat of various important families; among whom the Lambertini have ever been eminent, and from them was descended pope Benedict XIV., who presented his native city with his whole library, philosophical instruments, &c. esteemed of great value. A flourishing silk manufacture has been conducted here ever since the middle of the fourteenth century. On the banks of the Reno are established between 300 and 400 mills in constant work. Cloth and silk stuffs are also made; and satins, damasks, taffeta, velvet, gauze, crape, and linen, give occasion to an active trade with Genoa, Leghorn, and Venice. The Academy of Sciences was founded in 1712 by the learned count Marsigli, one of the generals of pope Clement XI. The fertile country around has obtained the appellation of *La Grassa*: here vineyards, separated by rows of elms and mulberry trees, and interspersed with melons, olives, &c. enchant the eye. Tobacco is also cultivated with great success, and the hemp grows to the height of twelve or thirteen feet. The French entered Bologna on the 19th of June, 1796, and made prisoners the cardinal legate and the papal garrison. An armistice, concluded on the twenty-third of that month between the pope and Buonaparte, left the legation of Bologna (otherwise called the Bolognese), in the occupation of France; and it was ceded in full, along with Ferrara and Romagna, by the subsequent treaty of Tolentino. Bologna was shortly after declared a free and independent state, in league with Ferrara, Modena, and Reggio; it was subsequently incorporated with the Cisalpine republic. In the campaign of 1799 this city was taken by the Austrian general Klenau, with the valuable magazines of the army of Macdonald; but, after the battle of Marengo, it again fell into the hands of the French, and was created the capital of the department of the Reno. It was restored to the pope in 1815, and is twenty-four miles south-east of Modena, twenty-six south-east of Ferrara, forty-eight north of Florence, and 180 N. N. W. of Rome.

BOLOGNA, or the BOLOGNESE, one of the Italian

States, containing about 200,000 inhabitants; it is bounded on the north by Ferrara, on the west by Modena, on the south by the duchy of Tuscany, and on the east by Romagna, and is watered by a great number of small rivers, which render its soil the most fertile perhaps of any in Italy. It produces all sorts of grain and fruits; particularly muscadine grapes, which are in high esteem; and has mines of alum and iron. This country, anciently belonging to the Boii and the Ligures, became in the middle ages a republic, under the protection of the emperors of Germany. After being sold by a faction to the archbishop of Milan, the people shook off the yoke, but in the year 1513 they put themselves under the dominion of the pope, on condition that they should preserve their privileges. The head of the province now is a legate of the pope, who is commonly a cardinal, and is changed every three years; ecclesiastical affairs, however, are subject only to the archbishop.

BOLOGNE, or BOULOGNE. See BOULOGNE.

BOLOGNIAN, or BONONIAN STONE, a phosphoric substance, first discovered near Bologna, in Italy, whence its name. It was supposed to contain some metallic matter, from its great specific gravity; but is now found to be only a compound of mucilage and sulphate of barytes. If sulphate of barytes be first heated to ignition, then finely powdered, and made into a paste with mucilage; and this paste divided into pieces a quarter of an inch thick, and dried in a moderate heat, be exposed to the heat of a wind furnace, by placing them loose in the midst of the charcoal; a pyrophorus will be obtained, which, after a few minutes exposure to the sun's rays, will give light enough in the dark to render the figures on the dial-plate of a watch visible. Mr. Scheffer, in the *Memoirs of the Academy at Stockholm*, for 1753, has communicated some experiments on a stone of this kind from China, which prove that it perfectly agrees with the description given in several books, of a stone called *petuntse* by the Chinese, said to be used in their porcelain manufactures.

BOLSCHERETSK, an important fortress and town of Kamtschatka, formerly the capital of that peninsula. It is situated on the banks of the Bolschaia Reka, twenty miles from its mouth, in a country almost entirely covered with rein-deer moss, whereon vast herds of rein-deer, formerly consisting of 2000 or 3000, belonging to the crown, were pastured. The town is small, consisting of log houses. There is a church here, a court-room, and barracks for the military, and also a number of huts of the Kamtschadales. Bolscheretsk was built in 1701 or 1703, destroyed in 1707, and rebuilt in 1711. The insecurity of the harbour has lately caused the seat of government to be transferred to Nischery Kamtschatka, at a considerable distance.

BOLSENA, LAKE OF, so called after a small town in the neighbourhood, once a bishop's see; called also *Lacus Tarquiniensis*, is about thirty miles in circuit, and surrounded by mountains, covered with noble forests. The whole presents the appearance of a vast amphitheatre, with a margin of towns and villages. The lake contains the two small islands of Martana and Bisentina;

the latter adorned with a fine Franciscan convent. The town of Bolsena is eight miles south of Orvieto, and is known as the spot where the pretended miracle was wrought, which led to the institution of Corpus Christi day in 1252.

BOLSOVER, a market town of Derby, nine miles east from Chesterfield, and 145 from London; containing 1245 inhabitants; it is pleasantly situate on the borders of Nottinghamshire. Here the Danes kept a garrison, and a few of their earth-works are remaining. It has a spacious and magnificent castle, founded by the family of Hastings, earls of Abergavenny, and is noted for the manufacture of tobacco-pipes. Market on Friday.

BOLSTER, *v. & n.* } Ang.-Sax. *bolster*,
BOLSTERED, } *bolstre*; from *boll*, a
BOLSTERER, } round or ball, and *ster*
BOLSTERING, } or *stre*, straw, a roll of
 straw, used generally for that article which supports and raises the head in bed; a pad or quilt to hinder any pressure, or fill up any vacuity; to bolster is to give artificial support; to uphold; to maintain; to supply for this purpose a temporary expedient: thus to bolster up the credit of an individual, is not to put it into a state of security, or actually to retrieve it, but to afford it insufficient, and in point of justice very questionable, assistance.

We may be made wiser by the publick persuasions grafted in men's minds, so they be used to further the truth, not to *bolster* error. *Hooker.*

It was the way of many to *bolster* up their crazy doating consciences with confidences. *South.*

Mortal eyes do see them *bolster*

More than their own. *Shakspeare. Othello.*

Perhaps some cold bank is her *bolster* now,
 Or 'gainst the rugged bark of some broad elm
 Leans her unpillowed head. *Milton.*

Up goes her hand, and off she slips

The *bolsters* that supply her hips. *Swift.*

This arm shall be a *bolster* for thy head;
 I'll fetch clean straw to make a soldier's bed.

Gay.

BOLSTER, among surgeons, a soft yielding substance, either laid under the head or a broken limb. In this sense, bolsters are contrived for crooked, bunched, and otherwise distorted backs, shoulders, &c.

BOLSWAERT, an ancient town of the Netherlands, in West Friesland, thirteen miles south-west of Leenwarden, and seven S.E. of Harlingen. It has a good port, carrying on an excellent leather and woollen trade. Near the town, which is about two miles in extent, was formerly an abbey of the Cisterians, where the Munster Anabaptists took refuge in 1534, and where William, count of Holland, was buried in the fourteenth century. Population 2800.

BOLSWERT, or **BOLSUERD** (Boetius Adam A.), an engraver at Antwerp, flourished about 1620. He worked with the graver only; and imitated the free open style of the Bolemaris with great success. When he worked from Rubens, he altered that style; and his plates are neater, fuller of color, and more highly finished. The two following are mentioned as capital: 1. The Resurrection of Lazarus, a large upright plate; and the Last Supper, its companion.

BOLSWERT, or **BOLSUERD** (Scheltius A.), was the brother of Boetius Adam, but greatly his superior. He worked entirely with the graver, and never called in the assistance of the point. His general character is thus drawn by Basan: 'We have a large number of prints, which are held in great esteem, by this artist, from various masters; but especially from Rubens, whose pictures he has copied with all possible knowledge, taste, and great effect. The freedom with which this excellent artist handled the graver, the picturesque roughness of etching, which he could imitate without any other assisting instrument, and the ability he possessed of distinguishing the different masses of colors, have always been admired by the connoisseurs, and give him a place in the number of those celebrated engravers, who are desirous of rendering their works as useful as they are agreeable, and of acquiring a reputation as lasting as it is justly merited.'

BOLT, *v. & n.* } Dutch, *boult*; *Βολις*. An
BOLT UPRIGHT. } arrow; a dart; lightning; a thunder-bolt; the bar or fastening of a door; a chain; a lock used to secure the legs of felons. To bolt is to throw to; to shoot; to build; to strengthen; to confirm; to send away; to drive out; to rush or cause to rush out; to start out with the quickness of an arrow: metaphorically, to speak without caution; to blurt out any thing precipitately.

Her mouth was sweet as bracket or the meth,

Or hord of apples laid in hay or heth.

Wining she was as is a jolly colt,

Long as a mast and upright as a *bolt*.

Chaucer. Canterbury Tales.

It was upon a holiday,
 When shepheard groomes han leave to play,
 I cast to go a shooting;
 Long wandering up and down the land,
 With bow and *bolts* in either hand,
 For birds in bushes tooting.

Spenser. Shepheard's Calender.

But wise and wary was that noble pere;
 And lightly leaping from so monstrous maine,
 Did fayre avoide the violence him nere;
 It booted nought to thinke such *thunderbolts* to bear.

Spenser.

This Puck seems but a dreaming dolt,
 Still walking like a ragged colt,
 And oft out of a bush doth *bolt*,
 Of purpose to deceive us.

Drayton.

Yet marked I where the *bolt* of Cupid fell;
 It fell upon a little western flower,
 Before milk-white, now purple with love's wound.

Shakspeare.

'Tis not in thee, to oppose the *bolt*
 Against my coming in. *Id.*

It is great
 To do that thing that ends all other deeds,
 Which shackles accidents, and *bolts* up change.

Id.

That I could reach the axle, where the pins are
 Which *bolt* this frame, that I might pull them out!

Ben Jonson.

Oh, I am wounded—not without,
 But angry Cupid *bolting* from her eyes,
 Hath shot himself into me like a flame.

Id. Volpone.

— As a thief to unhoard the cash
Of some rich burgher, whose substantial doors,
Cross-barred and bolted fast, fear no assault,
In at the window climbs, or o'er the tiles;
So clomb this first great thief into God's fold:
So since into his church lewd hirelings climb.

Milton.

I hate when vice can bolt her arguments,
And virtue has no tongue to check her pride. Id.
They erected a fort, and from thence they bolted
like beasts of the forest, sometimes into the forest,
sometimes into the woods and fastnesses, and some-
times back to their den. Bacon.

As the house was all in a flame, out bolts a mouse
from the ruins to save herself. L'Estrange.

I have reflected on those men who, from time to
time, have shot themselves into the world. I have
seen many successions of them; some bolting out
upon the stage with vast applause, and others hissed
off. Dryden.

Singed with the flames, and with the bolts trans-
fixed,

With native earth your blood the monsters mixed. Id.

The bolted gates flew open at the blast;
The storm rushed in, and Arcite stood aghast. Id.
As I stood boltupright upon one end, one of the
ladies burst out. Addison.

Was there no bolt, no punishment above?
No, none is equal to despairing love.

Havard's Scanderbeg.

Sir, this vermin of court reporters, when they are
forced into day upon one point, are sure to burrow in
another; but they shall have no refuge: I will make
them bolt out of all their holes. Burke.

BOLT', v. } Germ. *beutelen*, bluter.
BOULT'ER, } To bolt the bran; to sift
BOULT'ING-HUTCH, } or separate, the fine from
BOULT'ING-TUB. } the coarse, the good from
the bad: hence to examine; to scrutinise with a
view to discrimination; to purify, to purge.

He now had bouted all the flour. Spenser.

In the bolting and sifting of fourteen years of power
and favour, all that came out could not be pure meal.
Wetton.

The fanned snow.

That's bolted by the northern blast twice o'er.

Shakespeare.

I cannot bolt this matter to the bran,

As Bradwardin and holy Austin can. Dryden.

It would be well bolted out, whether great refrac-
tions may not be made upon reflections, as upon direct
beams. Bacon.

The judge, or jury, or parties, or the council, or
attornies, propounding questions, beats and bolts out
the truth much better than when the witness delivers
only a formal series. Hale.

Time and nature will bolt out the truth of things
through all disguises. L'Estrange.

BOLT, in architecture, an iron fastening fixed to
doors and windows. They are generally distinguished
into three kinds, viz. plate, round and spring bolts.

BOLT, in commerce, twenty-eight ells of can-
vas. Also a narrow piece of silk of indefinite
measure.

BOLTS, in gunnery, are of several sorts, as,
bolts, bed, the four bolts that fasten the brackets
of a mortar to the bed. Bolts, bracket, the bolts
that go through the cheeks of a mortar, and by
the help of quoins keep her fixed at the given
elevation. Bolts, prise, the large knobs of iron

on the cheeks of a carriage, which keep the
handspike from sliding, when it is poizing up
the breech of a piece. Bolts, transum, that go
between the cheeks of a gun-carriage, to
strengthen the transums. Bolts, traverse, the
two short bolts that, being put one in each end
of a mortar-carriage, serve to traverse her.

BOLTS, in ship-building, are iron pins, of
which there are several sorts, according to their
different makes and uses.

BOLTS, FEND, or FENDER, made with long and
thick heads, and struck into the uttermost bends
of the ship, to save her sides from bruises.

BOLTS, FORELOCK, have at the end a forelock
of iron driven in to keep them from starting
back.

BOLTS, RAY, have jags or barbs on each side,
to keep them from flying out of their holes.

BOLTS, RING, are for bringing-to the planks,
and those parts to which the breeches and tackle
of the guns are fastened.

BOLTS, in ship-building, are made of copper
or iron, pointed at one end. They vary in
length from two to fifteen feet, and in diameter
from three-quarters to an inch and quarter or more;
receiving particular names according to the parts
of the vessel in which they are driven, by what
is called a monkey. The weight of copper bolts
in an English seventy-four gun ship, is reckoned
at about thirty tons, and the iron bolts for the
upper works weigh not less than forty more. A
superior mode of driving them has lately been
suggested, particularly where they are not of
great weight, by Mr. Phillips' tubes, represented
in the diagram below.

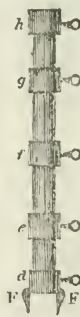
Fig. 1.



Fig. 2.



Fig. 3.



Figs. 1 and 2 are steel punches or drifts, placed
on the head of the copper bolt whilst driving.
Fig. 3 is the iron tube fastened together, ready to
enclose the bolt. Iron rings with screws, *d, e, f, g, h*,
are placed over the joints of the tube to hold
them firmly together; and the points, *F F*, on the
lower ring are to stick into the timber, in order
to preserve the tube steady in driving. See
Transactions of the Society of Arts, vol. xix.

Very powerful machines are required for the
drawing of bolts in repairing a ship; the most
approved in our dock-yards are Bolton's and
Hookey's.

BOLTING, or BOULTING, among millers, the
act of separating the flour from the bran, by
means of a sieve or bolter.

BOLTING-CLOTH, **BOLSTER-CLOTH**, or **BULTING-CLOTH**, a linen or hair cloth for sifting meal or flour.

BOLTING-MILL, a versatile engine for sifting with more ease and expedition. The cloth round this is called the bolter.

BOLTON-LE-MOOR, a market town of Lancashire, on a stream that joins the Irwell, noted for its extensive manufactures of cotton goods. Between 1781 and 1821, the population had received an increase of 17,000 persons. The Flemings first established the cotton manufacture here, and it retained the pre-eminence in that branch of commerce for a considerable time; and while the trade of Manchester was chiefly in coarse woollens. Here Sir Richard Arkwright was born, and passed great part of his early life. There are several good libraries; and the methodists have a Sunday school, in which more than 1000 children are instructed, gratis, in reading and writing. Long. 2° 15' W., lat. 53° 55' N. By the canal navigation, Bolton communicates with all parts of the kingdom. Besides the original parish church, here is a newly built church, several chapels for dissenters, a Catholic chapel, and a grammar school. Here is also a dispensary, a public library, and news-rooms, besides other useful and charitable institutions. Between this place and Wigan, great quantities of canal coal are found, which, although easily lighted, will hold fire as long as any coal whatever; it is perfectly smooth when parted into pieces, and although of the deepest jet black, will not soil a cambric handkerchief; of this substance turners make snuff-boxes, salts, candlesticks, &c. In the neighbourhood are some medicinal waters. Here the earl of Derby was executed in 1651, for proclaiming king Charles II. It has a good market on Monday, and fairs on July 31st and October 14th, for horses, hardware, goods, &c.; and on the day preceding each, is a fair for horned cattle. The police of the town is conducted by two constables, assisted by the neighbouring magistrates.

BOLTON, or **BOULTON** (Edmund), an ingenious English antiquarian, who lived in the beginning of the seventeenth century. His principal work is his *Nero Cæsar, or Monarchy Depraved*, printed at London in 1624, folio, and adorned with several curious prints of valuable medals. Besides this, he wrote: 1. *An English Translation of Lucius Florus's Roman History*. 2. *Hypercritica, or a rule of judgment for reading or writing our Histories*. 3. *The Elements of Armouries, &c. and some other works*.

BOLTONIA, in botany, a genus of plants; class syngenesia, order polygamia superflua. Ess. ch. receptacle cellular, hemispheric; SEED, margin toothed and two-awned: CAL. imbricate: SPECIES, two, natives of North America.

BOLT ROPE, in naval affairs, the rope passing round the sail, to which the edges of it are sewed, to prevent the sail from tearing: the bottom part of it is called the foot-rope; the sides, leeches; and if the sail be oblong or square, the upper part is called the head-rope.

BOLUC BASSI, the chief of a company among the Turks, or a captain over 100 janissaries.

BO'LUS; βολος; any medicine, rolled round: VOL. IV.

that is larger than an ordinary sized pea, and yet not too large to be swallowed.

BOLZAS, in commerce, a kind of ticking brought from the East Indies.

BOMB, *v. & n.*

BOM'BARD, *v. & n.*

BOM'BARDIER,

BOM'BARDMENT,

BOMB'KETCH,

BOMB'VESSEL,

BOM'BILATION,

BOMB'CHEST.

Bombarda, says Vossius, a new word for a new thing; *bombo et ardere*, sound and flame; noise and mischief. A bomb is a murderous machine constructed to vomit out iron balls by the force of gunpowder. To bomb, to bombard, is to besiege and attack with bombs. 'Bombard-phrasé,' a compound used by Ben Jonson to imply more sound than sense; sounding or noisy, as a bomb, or bombard. Bombchest, from bomb and chest. A kind of chest filled usually with bombs, and sometimes only with gunpowder, placed under ground, to tear and blow it up in the air, with those who stand on it. Bombketch and bombvessel. A kind of ship strongly built, to bear the shock of a mortar, when bombs are to be fired into a town.

An upper chamber being thought weak, was supported by a pillar of iron, of the bigness of one's arm in the midst; which, if you had struck, would make a little flat noise in the room, but a great *bomb* in the chamber beneath. Bacon.

How to abate the vigour or silence the *bombilation* of guns, a way is said to be by borax and butter, mixt in a due proportion, which will almost take off the report, and also the force of the charge.

Brown's *Vulgar Errours*.

They planted in divers places twelve great *bombards*, wherewith they threw huge stones into the air, which, falling down into the city, might break down the houses. Knolles.

The loud cannon missive iron pours,
And in the slaughtering *bomb* Gradivus roars.

Rowe.

Our king thus trembles at Namur,
Whilst Villeroy, who ne'er afraid is,
To Bruxelles marches on secure,
To *bomb* the monks, and scare the ladies.

Prior.

A medal is struck on the English failing in their attempts on Dunkirk, when they endeavoured to blow up a fort, and *bombard* the town. Addison.

Genoa is not yet secure from a *bombardment*, though it is not so exposed as formerly. Id.

Nor could an ordinary fleet, with *bomb-vessels*, hope to succeed against a place that has in its arsenal galleys and men of war. Id. on Italy.

The *bombardier* tosses his ball sometimes into the midst of the city, with a design to fill all around him with terror and combustion. Tatler.

From the earliest dawning of policy to this day, the invention of men has been sharpening and improving the mystery of murder, from the first rude essay of clubs and stones, to the perfection of gunnery, cannoneering, *bombarding*, mining. Burke.

BOMB, a hollow iron ball, or shell, filled with gunpowder, and furnished with a vent for a fusee, or wooden tube, filled with combustible matter, to be thrown out from a mortar; which has its name from the noise it makes. The fusee, being set on fire, burns slowly till it reaches the gunpowder, which goes off at once, bursting the shell to pieces with incredible violence; whence the use of bombs in besieging towns. The

largest are about eighteen inches in diameter. By whom they were invented is not known, and the time is uncertain, some fixing it to 1588, and others to 1495. The shell being filled with gunpowder, the fusee is driven into the vent or aperture, within an inch of the head, and fastened with a cement made of quick lime, ashes, brick dust, and steel filings, worked together in a glutinous water; or of four parts of pitch, two of colophony, one of turpentine, and one of wax. This tube is filled with a combustible matter, made of two ounces of nitre, one of sulphur, and three of gunpowder dust, well rammed. To preserve the fusee, they pitch it over, but uncase it when they put it into the mortar, and cover it with gunpowder dust; which, having taken fire by the flash of the powder in the chamber of the mortar, burns all the time the bomb is in the air; and the composition in the bomb being spent, it fires the powder in the bomb, which bursts with great force, blowing up whatever is about it. The great height a bomb goes in the air, and the force with which it falls, makes it go deep into the earth. Bombs may be used without mortar-pieces, as was done by the Venetians at Candia, when the Turks had possessed themselves of the ditch, rolling down bombs upon them along a plank set sloping towards their works, with ledges on the sides to keep the bomb right forward. They are sometimes also buried under ground to blow up. See CAISSON. Bombs were not commonly used till 1634, and then only in the Dutch and Spanish armies. One Malthus, an English engineer, is said to have carried them first into France, where they were used at the siege of Collioure. The French invented a new sort of bombs of vast weight, called comminges. The art of throwing bombs makes a branch of gunnery, founded on the theory of projectiles, and the qualities of gunpowder. See GUNNERY, PROJECTILES, GUNPOWDER, &c.

BOMBA, in zoology, a species of trichoda belonging to the genera of vermes infusoria. This kind is of a changeable form, with a few hairs on the anterior part. It is found abundant in stagnant water; the body is thick, somewhat pellucid, of a yellowish color, and filled with paler molecules.

BOMBARDING, or BOMBARDMENT, the act of assaulting a city or fortress, by throwing shells into it, in order to set fire to and ruin the houses, churches, magazines, &c. and to do other mischief. As one of the effects of the shell results from its weight, it is never discharged as a ball from a cannon, that is, by pointing it at a certain object; but the mortars in England are fixed at an elevation of forty-five degrees; that is, inclined so many degrees from the horizon, that the shell describes a curve, called the military projectile. Some mortars (5½ inch brass) have of late been constructed to fire at different elevations, upon brigadier-general Lawson's principle.

BOMBARDO, a musical instrument of the wind kind, much the same as the bassoon, and used as a bass to the hautboy.

BOMBASIN, { Lat. *bombyx*. Any soft Bombycinous. } or delicate wool adapted for weaving garments; a slight silken stuff for mourning.

In six months after, came the silkworms *bombyces*. Silkworms spin and weave webs like to those of the spiders, and all to please our dainty dames, who thereof make their fine silkes and velvets, form their costly garments and superfluous apparell, which are called *bombycina*. Holland. Plinie.

BOMBASINE is also applied to stuffs crossed of cotton.

BOMBASIUS (Paul), a native of Bologna, gained esteem by the profession of philology about the beginning of the sixteenth century. He taught Latin and Greek at Naples, and was professor of Greek at Bologna. His abilities induced Cardinal Pucci to make him his secretary, with a good salary. He lived very easy at Rome with the cardinal, till that city was plundered under Clement VII. when he was killed, while endeavoring to get into the castle of St. Angelo. He was an intimate friend and correspondent of Erasmus, who has preserved some of his letters, and gives him a good character.

BOMBAST, *v. n. s. & adj.* or } Of the same
BUM'AST, } origin as bon-
BOM'BASTICK, } basin. Ac-
BOM'BASTRY. } cording to
Johnson, it is a stuff of soft loose texture, used formerly to swell the garment, thence used to signify bulk or show without solidity. Fustian; big words, without meaning.

He, as loving his own pride and purpose,

Evades them with a *bombast* circumstance,
Horribly stuffed with epithets of war. *Shakspeare.*

Not pedants' motley-tongue, soldiers' *bombast*,

Mountebanks' drug-tongue, nor the terms of law,

Are strong enough preparatives to draw

Me to hear this. *Donne.*

Are all the flights of heroick poetry to be concluded *bombast* unnatural, and mere madness, because they are not affected with their excellencies? *Dryden.*

A theatrical, *bombastick*, windy phraseology of heroick virtue blended and mingled up with a worse dissoluteness, and joined to a murderous and savage ferocity, forms the tone and idiom of their language and their manners. *Burke.*

BOMBAST, in composition, is a serious endeavour, by strained description, to raise a low or familiar subject beyond its rank; which, instead of being sublime, never fails to be ridiculous. The mind in some animating passions is indeed apt to magnify its objects beyond natural bounds: but such hyperbolical description has its limits; and, when carried beyond these, it degenerates into burlesque, as in the following examples:

He roared so loud and looked so wondrous grim,
His very shadow durst not follow him.

Ben Johnson, in his *Sejanus* (Act. 5.), makes that proud minister say,

Great and high
The world knows only two, that's Rome and I.
My roof receives me not: 'tis air I tread,
And at each step I feel my advanced head
Knock out a star in heaven.

A writer who has no natural elevation of genius is extremely apt to deviate into bombast. He strains above his genius, and the violent effort he makes, carries him generally beyond the bounds of propriety. But even the best poets sometimes deviate into bombast, or sink into bathos, when they go beyond nature, in aiming at the sublime. See *SUBLIME*.

BOMBAX, in botany, the silk-cotton tree : A genus of the polyandria order, and monodelphia class of plants : natural order seventeenth colum-niferæ : CAL. quinquifid : STAM. five or more ; the capsule is ligneous, quinquelocular, and quinque-valved : the seeds are woolly, and the receptacle pentagonous. The species are six in number. 1. *B. ceiba*, with a prickly stalk, a native of America. 2. *B. heptaphyllum*, with leaves cut into seven parts : the cotton is of a fine purple color. 3. *B. pentandria*, with a smooth stalk, growing naturally in the Indies, where they arrive at a great magnitude, being some of the largest trees in those parts. These plants, being natives of warm climates, must always be kept in a stove. They are raised from seeds, procured in the capsules from the places where they grow naturally. These are to be sown in spring, in pots of light earth, plunged in a substantial hot-bed of dung or tan, where the plants will appear in three or four weeks. They must then be placed separately in small pots, plunging them in the bark-bed, giving them shade and water, and shifting them occasionally into larger pots with fresh earth. Water them plentifully in summer, but moderately in winter. The dark short cotton of the first and third species is used by the poorer inhabitants of those places where such trees grow, to stuff pillows or chairs, but is generally deemed unwholesome to lie upon. The beautiful purple down of the heptaphyllum is spun, wrought into clothes, and worn, without being dyed any other color, by the inhabitants of the Spanish West Indies, where the tree naturally grows. Large piragues, or canoes fit to carry a sail, are made both at Senegal, and in America, of the trunk of the silk-cotton tree, the wood of which is very light, and unfit for any other purpose.

BOMBAX, in entomology, is applied by Lin-næus to such insects as have incumbent wings, and feelers resembling a comb.

BOMBAY, Bom-bahia, Port. i. e. Good Bay, an island on the western coast of India, the seat of one of the English presidencies. It is situated in 18° 58' N. lat., and 72° 38' E. long.; and is about seven miles in length, and twenty-one in circumference. The natives call it Mambei. A narrow arm of the sea separates it from Salsette and the coast of Malabar.

This island was early taken possession of by the Portuguese; and was ceded, in 1662, to the English, as part of the dowry of the Infanta Catharine, on her marriage with Charles II.; but on a squadron being despatched to India, to receive investiture of the island, the Catholic clergy were unwilling that it should be delivered into the hands of heretics, and induced the governor to resist its transfer. Above two years elapsed before this object could be effected, during which period the English squadron buried upwards of 200 of its men in the Swalley roads. At length a treaty was agreed to, by which the inhabitants were to enjoy the free exercise of their religion, with the possession of their estates, under the crown of England; but the revenue of the island being not equal to its expenditure, the king, in 1668, made a full grant of it to the East India Company. Its excellent harbour has

doubtless been the chief recommendation of this island; a thousand ships, it is said, can ride in it, protected from every wind. On the approach of the monsoons, vessels, in other parts of India, are obliged to stand out to sea, in order to prevent inevitable destruction. At this period the harbour of Bombay, and Trincomallee, in the island of Ceylon, are the only ports we possess which are capable of affording a retreat. Near the southern extremity of the island stands the light-house, which is of a circular form. It rises from the sea to the height of 150 feet, and shows a light at the distance of twenty-one miles. Butcher's Island is nearly opposite to Bombay Castle, at a distance of three miles; and about two miles from this is the small but celebrated island of Elephanta. The two small islands of Henery and Kenery are situated at the entrance of the harbour, which is furnished with dock-yards, and an arsenal convenient for building and refitting ships.

The new dock is a magnificent work, both as to design and execution. With all these advantages Bombay is indeed a most important naval arsenal: within these few years ships of from 600 to 1000 tons have been built in its yards, equal to any in the world in durability and beauty of construction. In 1810 the *Minden*, a seventy-four gun ship, was built by the Parsees without any assistance from Europeans. The highest spring tides rise here to the height of seventeen feet, and the height of the ordinary tides is fourteen feet. In consequence of these advantages the dry dock of Bombay has scarcely its equal for size and convenience, having three divisions, with a pair of strong gates to each, so that it is capable of receiving three ships of the line at one time.

Bombay, enjoying from its insular situation the full advantage of the sea breezes, is cooler in point of climate than most parts of the Indian continent. The rains last about four months, and continue with little interruption from about the end of May to the beginning of October. It was formerly reckoned the grave of the English; but is considered more salubrious since the building of a wall to prevent the salt marshes formed by the sea, and by an order that the natives should not manure their cocoa-nut groves with putrid fish. Still many Europeans are attacked, on their first arrival, by the diseases of all warm climates, provoked in many cases by irregularity, against which they cannot be too much guarded. The soil is sterile, and incapable of much improvement, producing nothing but a little rice, cocoa-nuts, and a few Indian fruits.

Under the Portuguese government Bombay is said to have contained about 10,000 inhabitants; Niebuhr informs us, that when he visited it, in 1763, they were estimated at 140,000, although within twenty years they did not amount to 70,000, so that in this short period the number appears to have been more than doubled. In the year 1803 Sir James Mackintosh computed the number of inhabitants at 150,000. These consist of English, Portuguese, Indian Catholics, Hindoos, Parsees (see our article **PARSEES** for an account of this remarkable sect), Mahomedans of different sects, and some Armenian Christians.

The English have a handsome church; and the establishment of chaplains for their presidency is four in number, but the list is rarely full. The Roman Catholics have a bishop of Bombay; they are numerous, and their churches are sumptuously ornamented. Government, it is said, does not allow the Catholics to exert their zeal for the conversion of the natives, but under great restrictions.

The city of Bombay, about a mile in length, is defended, both towards the land and sea, by very extensive fortifications. The houses are not, in general, either handsome or commodious, having only one floor; but they are not flat roofed, as in the other parts of the East, being covered with tiles in the European manner. The English prefer glass windows, but the other inhabitants form them of small pieces of transparent shells framed in wood. The floors are a composition of lime made from shells, extremely durable and remarkably smooth. The government house is a handsome edifice. A causeway, connecting Bombay with Salsette, is a public work of considerable magnitude, and insures the country a constant supply for the markets; but it has been thought injurious to the harbour. The markets furnish mutton (often lean and hard), excellent fish, game (principally the red-legged partridge), and large frogs, which are in great request among the Portuguese and Chinese, onions, for which they are famous, common and sweet potatoes, inferior cheese, buffalo-beef, butter and milk. Bombay sends to China a large quantity of cotton, sandal-wood, pepper, gums, drugs, pearls, ivory and gems, sharks' fins and edible birds' nests. The ships are generally detained there from July to January. Coffee, barilla, hemp, manufactured goods from Surat, with many of the above articles, are also sent to Europe.

Bombay is the seat of the English government for the coast of Malabar. The council consists of a governor and three members; but they are under the control of the government-general of Bengal, with respect to treaties of peace with the native powers, the making of war or concluding of peace, collecting and applying revenues, levying and employing forces, &c.; and they are required in all cases to obey the orders of the government-general, unless the directors of the Company have sent out contrary orders not known to the government-general, of which, in that case, they are to give the government immediate advice. The regular military and marine corps do not amount to 3000 men; but the whole army forms a body of more than 21,000, chiefly Maharrattahs, who retain their own language and customs. The number of the principal civil servants is 106. Besides the governor and council, stationed at the presidency itself, there are magistrates and commercial residents at the chief towns of the different provinces subject to their government. There is one supreme court of judicature held under the recorder; in which the practitioners are three barristers and three attorneys. Besides the capital, the places of some importance on the island are MAZAGONG, FORT SURI, MAHINI, and MALABAR POINT, which see. Its navigable streams are the Tapti, Nerbedah, and Mehindsi.

BOMBELLA, in entomology, a species of bombyx, inhabiting Austria, the wings of which are cinereous, sprinkled with fuscous. This is *Tinea Bombycella* of the Vienna catalogue.

BOMBERG (Daniel), an eminent printer, born at Antwerp. He was the first who printed Hebrew books at Venice. He began with an edition of the Bible in 4to. in 1511: and afterwards printed many others in folio, 4to, and 8vo. He printed a folio edition in 1517, with the commentaries of the rabbins, dedicated to pope Leo X. and another under the inspection of Rabbi Jacob Haiim in 4 vols. folio, in 1525. He also printed three editions of the Talmud, each of which cost him 100,000 crowns. One of these was begun in 1520, and consisted of 11 vols. folio. He brought the art of printing Hebrew books to such perfection, says Mr. Bayle, that the Jews allege, that since his death the Hebrew printing has continually grown worse.

BOMBIC ACID. Acid of the silk-worm. Silk-worms contain, especially when in the state of chrysalis, an acid liquor in a reservoir placed near the anus, which is obtained by expressing their juice in a cloth, and precipitating the mucilage by spirit of wine, and also by infusing the chrysalides in that liquor. This acid is very penetrating, of a yellow amber color, but its nature and combinations are not yet well known.

BOMBINA, in entomology, a large species of curculio, described by Fabricius, as a native of Cayenne. This insect is of a ferruginous brown color, and the wing cases striated, with black elevated tubercles.

BOMBINA, in zoology, a species of rana, or frog, the belly of which is orange, spotted with sky-blue, and the pupil of the eye triangular. Blumenb. This kind appears to be extremely variable in point of color and markings. The triangular form of the pupil of the eye, the most striking criterion of this species, can only be observed in a full light, for when examined in the shade its shape is circular.

BOMB-KETCH, a vessel built for the use of mortars at sea, and furnished with all the apparatus necessary for a vigorous bombardment. Bomb-ketches are built remarkably strong, to sustain the violent shock produced by the discharge of the mortars. The modern bomb-vessels generally carry two ten-inch mortars, four sixty-eight pounders, and six eighteen-pounders caronades: and the mortars may be fired at as low an angle as twenty degrees; their principal intention, at these low angles, being to cover the landing of troops, and protect our coast and harbours. A bomb-ketch is generally from sixty to seventy feet long from stem to stern, and draws eight or nine feet water; carrying two masts, and usually of 100 to 150 tons burden. The tender is generally a brig, on board of which the party of artillery remain till their services are required on board the bomb-vessel.

BOMBUS, in medicine, denotes a murmuring noise, as of wind breaking out of a narrow into a large cavity, frequently heard in the intestines. The bombus heard in the ears, in acute diseases, is laid down by Hippocrates as a sign of death.

BOMBUS, in music, an artificial motion with

the hands, imitating in cadence and harmony the buzzing of bees. The word is originally Greek, and signifies the buz or noise of bees, gnats, and the like. In this sense, *bombus* made one of the species of applause used by ancient auditories.

BOMBYCILLA, in ornithology, wax-wing, a genus of birds detached from the chattering, of the order passeris. Its generic characters are: beak short, slightly depressed: nostrils oval, and covered with small feathers: feet four-toed. There are two species, namely—*B. Bohemica*. Bohemian wax-wing, or chattering. *B. Carolina*, Carolina wax-wing.

BOMBYLIUS, in entomology, the humble-bee, a genus of insects belonging to the order of diptera. The rostrum is long, bristly and bivalved; the bristles being fixed between the horizontal valves. Mr. Ray reckons nineteen species, but Linnæus only five; viz. 1. *B. ater* has red wings, but a little blackish at the base; and green feet. 2. *B. Capensis*, with the wings spotted with black, an ash-colored body, and white behind. It is a native of the Cape of Good Hope. 3. *B. major*, with black wings. 4. *B. medius*, with a yellowish body, white behind, and the wings spotted with yellow. 5. *B. minor*, with unspotted wings. These are natives of Europe.

BOMBYLOPHAGUS, the humble-bee eater, in zoology, the name of a fly of the tipula kind, which is larger and stronger than the common kinds; and, loving honey, it seizes on the humble-bees, and destroys them, in order to get at the bag of honey which they contain. It is of a blackish color in the body; its head is of a bright red, and the eyes very large and prominent. It is chiefly found in mountainous places.

BOMBYX, among ancient naturalists, signifies indifferently either silk or cotton.

BOMBYX, in ancient music, a kind of instrument, which in Aristotle's time, was made of a reed, and, by reason of its length, was difficult to play on: 2. a contrivance of horn for shutting and opening the holes of wind instruments.

BOMBYX, an extensive genus of lepidopterous insects. See **ENTOMOLOGY**.

BOMBYX is also a name given to the silkworm.

BOMILCAR, the son of Hamilcar, a Carthaginian general, who, being suspected of conspiring with Agathocles, was crucified in the midst of Carthage.

BOMMEL, a fortified town of Dutch Guelderland, situated on an island called Bommeler Waard, formed by the Maese and Waal. It contains a population of nearly 3000 inhabitants; but the harbour is obstructed by sand, and its trade has in consequence declined. During the latter part of 1794, and the beginning of 1795, the French several times attempted to cross the Waal, near this town, which, with the adjoining fort of Saint Andrew, fell at this period into their hands. They afterwards drove the allies from their entrenchments at the point of the bayonet. It stands about sixty miles nearly north-east of Antwerp.

BOMMELER WAARD, the insula Batavo-

rum of Cæsar, an island in the Netherlands, formed by the Maese and the Waal, about fifteen miles long, and six broad. Being a strong place, it has often been taken and retaken. In the beginning of the civil wars, a detachment of Spanish troops were surrounded here by a Dutch fleet; the dykes were opened, and the island laid under water. But the troops who took refuge in the citadel were relieved by a sudden frost, which obliged the Dutch to retreat. In 1600 it surrendered to prince Maurice of Orange; in 1672 it was taken by the French, under marshal Turenne, but was abandoned in the following year. It had formerly a governor appointed by the states-general.

BOMONICI, from *βωμος*, an altar, and *νικη*, victory; conquerors at the altar, in Grecian antiquity, young men of Lacedæmon, who contended at the sacrifices of Diana which of them was able to endure the most lashes; being scourged at the altar of the goddess. Plutarch relates that some of them would have endured this discipline the whole day, and even to death itself.

BON, or **BAX**, in botany, a name given by some authors to the tree, the kernel of whose fruit is the coffee. The fruit they call buna.

BONA, by the Moors called Balederna, and by the Arabs blaid-el-Aneb, a sea-port of Algiers, formerly rich and populous, and the capital of the province. It is supposed by some to be the ancient Hippo, the see of St. Austin, and a sea-port built by the Romans; the ruins of which city are seen near. It is now a mean place, poorly built, and thinly inhabited. Bona was taken by the pirate Barbarossa, and joined to Algiers; but as quickly lost, and recovered by its old masters the Tunisians, who did not keep it long; and Charles V. landed in it when he invaded Algiers. This was one of the settlements of the French African Company, established during the reign of Louis XIV. They carried on here a considerable trade: in one year they exported 10,000 quintals of wool, 5000 of wax, 50,000 bullocks' hides, and 100,000 bushels of corn. The annual value of these exports is estimated at £28,575. Bona is also resorted to on account of the coral banks in the vicinity. In 1805 the English obtained the cession of this town, and of these banks, which in 1816 was treacherously taken from them by the Turks, a circumstance that gave rise to the memorable expedition sent against Algiers under lord Exmouth. From a continual discharge of ballast, and a neglect of cleansing, the road for the ships is good for nothing before the town, but a little farther west is deeper. It is sixty-six miles N. N. E. of Constantia.

BONA DEA, in heathen mythology, the good goddess, one of the names of Cybele. Others say, she was a Roman lady, the wife of one Faunus, and famous for her chastity, and that after her death she was deified. Her sacrifices were performed only by matrons; and in so secret a manner, that it was no less than death for any man to be present at the assembly. See **CYBELE**. Cicero reproaches Clodius with having entered into this temple disguised as a singing woman, and having by his presence pol-

luted the mysteries of the good goddess. What kind of mysteries these were, we may learn from Juvenal, Sat. vi. 313.

BONA, in law, from bonus, Lat. good, is variously applied, e. g. 1. *Bona fides*. When a person performs any action, which he believes at the time to be just and lawful, he is said to have acted *bonâ fide*. 2. *Bona gratia* was anciently used respecting divorces, which were brought about amicably for some just reason, with the consent of both parties and without any crime on the part of either; as in cases of old age, disease, barrenness, monachism, captivity, or the like. 3. *Bona mobilia*, movable effects. 4. *Bona notabilia*, such goods as a person dying has in another diocese than that wherein he dies, amounting to the value of £5 at least; in which case the will of the deceased must be proved, or administration granted in the court of the archbishop of the province, unless by composition or custom, any dioceses are authorised to do it, when rated at a greater sum. 5. *Bona patria*, an assize of countrymen or good neighbours, where twelve or more are chosen out of the country to pass upon an assize, being sworn judicially in the presence of the party. 6. *Bona peritura*, perishable goods. By stat. 13. Ed. I. cap. 4. the cargo of a ship that has been cast away shall be kept for a year and a day, and restored to the rightful owner; but if the goods be such as will not endure so long, they are *bona peritura*, which the sheriff is allowed to sell, and to account in money for the value. 7. *Bona vacantia*, goods in which no person can claim a property, such as royal fish, ship-wrecks, treasure-trove, waifs and estrays. These goods by the law of nature, and by the imperial law, belonged to the first occupant or finder; but in the modern constitutions of European governments, they are annexed to the supreme power by the positive laws of the state.

BONARELLI (Gui Ubaldo), an Italian count, was entrusted with several important negotiations, and esteemed an able politician and learned philosopher. He was the author of a fine Italian pastoral, intitled, *Filli di Sciro*. He died at Fano, in 1608, aged 45.

BONARIENSIS, in ornithology, a species of *loxia* or grosbeak. The head and back of the neck blue; body blackish above, yellow beneath; belly and vent yellow. The bill blackish; legs red. This is the marigold grosbeak of Latham, and *noir souci* of Buffon. Also a species of *tanagra*, inhabiting Bonaria; the color black, glossed with violet, and with greenish on the wings and tail. The female is of a brown color, with the head black, and glossed with blue. Also a species of *motacilla*, color black; throat and sides ferruginous; face, chin, middle of the belly, and exterior tail-feathers, white. Buffon calls this *demi-fin noir et roux*. It is the white-chinned warbler of Latham.

BONASIA, in entomology, a species of cicada found in America; the thorax bicornuted, and edged with white; at the base of the wings is a white spot. Also the name of a species of papilio; the wings fuscous, with a common fulvous band; the lower pair spotted at the base with black.

BONASIA, in ornithology, a species of the tetrao.

BONASUS, in zoology, a species of wild ox of the size of the tame kind, but of a thicker body, and having on its neck a mane like that of a horse, and horns very short and crooked. See **GLAMA**.

BONAVENTURA, a sea-port of South America, on the coast of Popayan, in Terra Firma. The climate is very unhealthy.

BONAVENTURE, a learned cardinal, born in Padua, in 1332. He studied at Paris, and joined the order of St. Augustine, of which he was made general in 1377. In 1378 Pope Urban VI. made him cardinal, which engaged him to defend the rights of the church against Francis de Carraris of Padua; and this so enraged that petty despot, that he caused him to be murdered by an arrow, as he passed St. Angelo's bridge at Rome, A. D. 1386. He wrote, 1. *Commentaries on the Epistles of St. John and St. James*. 2. *Lives of the Saints*. 3. *Speculum Mariæ*. 4. *Sermons*, &c.

BONAVENTURE (St.), a celebrated cardinal, originally named John Fidanzo, and called from his works, the seraphic doctor. He was born at Bagnarea in 1221, and became a monk of the order of St. Francis in 1243, a doctor of Paris in 1255, and general of his order in 1256. After the death of Clement IV. the cardinals, disagreeing about the election of a new pope, solemnly engaged to elect him who should be named by Bonaventure, even though it should be himself, but he chose Theobald archdeacon of Liege, who was then in the Holy Land, and took the name of Gregory X. This pope, in return, in 1272, made him cardinal and bishop of Alba, and appointed him to assist at the second general council of Lyons, where he died in 1274. His works, which are chiefly on divinity, were printed at Rome in 8 vols. folio. Bellarmine praises him highly, and even Luther styles him *vir præstantissimus*, a most excellent man. He was canonised by Sixtus IV. in 1482.

BONAVENTURE ISLAND, an island of Lower Canada, in the district of Gaspé, situated about one mile and a half from the coast, near the entrance of Chaleur bay. It is little better than a barren rock; but is resorted to as a fishing place.

BONAVISTA, an island in the Atlantic Ocean, the most easterly and first discovered off the Cape de Verd islands. It is twenty miles long, and thirteen broad; has plenty of goats and cotton, with some indigo; and belongs to Portugal. The inhabitants are remarkable for slothfulness: they have a town and two roads where ships come to an anchor. One of which, called the English road, is handsome and spacious: it has a few rocky shallows, but if these can be avoided, vessels find everywhere from four to thirteen fathoms of water. The other, the Portuguese road, though not quite equal, has the advantage of being nearer the city. The northern side according to Captain Cook, is in long. 22° 59' E., lat. 16° 17' N.

BONAVISTA, CAPE AND BAY OF, on the east side of Newfoundland. The cape lies in W. long. 52° 32', N. lat. 48° 15'; and was discovered by John Cabot, and his son Sebastian, in 1497,

in the service of Henry VII. king of England. The bay is formed by the cape and that of Cape Freels, opening fifteen leagues apart.

BONAWASI, a small town in the province of North Canara, on the confines of the Bednore district. In Hyder's time it contained 500 houses, but is now much reduced. This place is noted by Ptolemy, and is said to have had a dynasty of kings, who ruled 1450 years before the christian era.

BONCIARIUS (Marc Antony), a disciple of Muretus, and a good Latin writer, was born in 1555, near Perugia, where he taught languages. Among his scholars was his own father, originally a shoemaker, who wishing to turn Jesuit at forty-seven years of age, was obliged to acquire some learning from his son. Bonciarius was afflicted with the gout, and at last lost his sight. He died in 1616. He wrote, 1. *De Arte Grammaticâ*. 2. *Triumphus Augustus*, a poem in 4 books. 3. *Letters*, printed at Marpurg in 1604. 4. *Epicurus, sive Dialogus de Antiqua Philosophia*.

BOND, *n. & adj.*

BOND'AGE,

BOND'MAN, OR

BONDS'MAN,

BOND'MAID,

BOND'FOLK,

BOND'SERVANT,

BOND'SERVICE,

BOND'SLAVES,

BOND'WOMAN, OR

BONDS'WOMAN.

Bond, Sax. bound.

It is written indifferently in many of its senses, bond or band; the past tense and past participle of the verb to bind. Bond is that which fastens or confines; constrains or obliges; forces or compels; it is the massy

chain that galls the limbs of the captive; it is the natural ligaments which hold the parts of the animal frame together; it is the moral power which holds society and societies in voluntary union; it is the tie of duty; the legal instrument by which contracting parties are bound and held in obligation; it is the compulsory power that makes the West India planter a dealer in blood, and the poor African his terrified, degraded, and miserable slave.

And if thy brother, that dwelleth by thee, be waxen poor, and be sold unto thee, thou shalt not compel him to serve as a *bond-servant*.

Leviticus xxv. 39.

Upon those did Solomon levy a tribute of *bond-service*.

Kings.

All her ornaments are taken away; of a free-woman she is become a *bond-slave*.

1 Macc. ii. 11.

Whether we be Jews or Gentiles, whether we be *bond* or free.

1 Cor. xii. 13.

Ne lasse flatering in hire worde,

That, purely, her simple recorde

Was found as true as any *bonde*

Or trouthe, of any manes honde.

Chaucer's Boke of the Duchesse.

O great Orgoglio! greatest under skye,

O hold thy mortal hand for ladies' sake;

Hold for my sake, and doe him not to dye,

But vanquish thine eternal *bondslave* make,

And me, thy worthy meed, unto thy leman take.

Spenser.

But man, 'forgetfull of his Maker's grace,

No less than angels, whom he did ensue,

Fell from the hope of promist heavenly place

Into the mouth of death, to sinners dew,

And all his offspring into thralldome threw,

Where they for ever should in *bondes* remaine

Of never dead yet ever dying paine.

Id. Hymnes.

Amongst the Romans, in making of a *bondman* free, was it not wondered wherefore so great ado should be made? the master to present his slave in some court, to take him by the hand, and not only to say, in the hearing of the publick magistrate, I will that this man become free; but, after those solemn words uttered, to strike him on the cheek, to turn him round, the hair of his head to be shaved off, the magistrate to touch him thrice with a rod; in the end, a cap and a white garment given him.

Hooker.

Wedding is great Juno's crown;

O blessed *bond* of board and bed!

Shakspeare.

To be a queen in *bondage* is more vile

Than is a slave in base servility.

Id.

Go with me to a notary, seal me there

Your single *bond*.

Id.

There left me, and my man, both bound together;

Till, gnawing with my teeth my *bonds* asunder,

I gained my freedom.

Id.

Shall I play my freedom at tray trip and become

a *bond-slave*.

Id.

You only have overthrown me, and in my *bondage* consists my glory.

Sidney.

Love enjoined such diligence, that no apprentice, no, no *bond-slave*, could ever be, by fear, more ready at all commands, than that young princess was.

Id.

My lords, the senators,

Are sold for slaves, and their wives for *bondswomen*.

Ben Johnson's Cataline.

There lies he now, bruised with so sore a fall,

To his base *bonds* and loathsome prison thrall,

Whom thousand foes besiege, fenced with frail yielding wall.

Fletcher's Purple Island.

However I with thee have fixed my lot,

Certain to undergo like doom; if death

Consort with thee, death is to me as life;

So forcible within my heart I feel

The *bond* of Nature draw me to my own,

My own in thee, for what thou art is mine;

Our state cannot be severed, we are one,

One flesh; to lose thee were to lose myself.

Milton.

Commonly the *bond-slave* is fed by his lord, but here

the lord was fed by his *bond-slave*.

Sir John Davies.

He must resolve by no means to be enslaved, and brought under the *bondage* of observing oaths, which ought to vanish when they stand in competition with eating and drinking, or taking money.

South.

What if I ne'er consent to make you mine;

My father's promise ties me not to time;

And *bonds* without a date, they say, are void.

Dryden.

Let any one send his contemplation to the extremities of the universe, and see what conceivable hoops, what *bond* he can imagine, to hold this mass of matter in so close a pressure together.

Locke.

Observe, in working up the walls, that no side of the house, nor any part of the walls, be brought up three feet above the other, before the next adjoining wall be brought up to it, so that they may be all joined together, and make a good *bond*.

Mortimer's Husbandry.

If she has a struggle for honour, she is in a *bondage* to love; which gives the story its turn that way.

Pope.

O hope, sweet flatterer! thy delusive touch
Sheds on afflicted minds the balm of comfort—
Relieves the load of poverty—sustains
The captive, bending with the weight of *bonds*—
And smooths the pillow of disease and pain.

Gloucester's Boudicca.

A day, an hour of virtuous liberty,
Is worth a whole eternity in *bondage*.

Addison's Cato.

Inglorious *bondage*! human nature groans
Beneath a vassalage so vile and cruel,
And its vast body bleeds through every vein.

Blair's Grave.

Death opens the gate of fame, and shuts the gate
of envy after it; it unlooses the chain of the captive,
and puts the *bondsman's* task into another man's
hands.

Sterne.

I have struggled through much discouragement,
and much opposition: much obloquy; much calumny,
for a people with whom I have no tie, but
the common bond of mankind.

Burke.

Hereditary *bondsman*! know ye not

Who would be free themselves must strike the blow.

Byron.

All, all forgotten; and shall man repine
That his frail *bonds* to fleeting life are broke.

Id.

BOND, in law, is a deed whereby the party obliges himself, his heirs, executors, or administrators, to pay a certain sum of money to another at a day appointed. If this be all, the bond is called a simple one, simplex obligation. But there is generally a condition added, that if the obligor does some particular act, the obligation shall be void, or else shall remain in full force: as payment of rent, performance of covenants in a deed, or repayment of a principal sum of money borrowed of the obligee, with interest; which principal sum is usually one-half of the penal sum specified in the bond. In case this condition is not performed, the bond becomes forfeited, or absolute at law, and charges the obligor while living; and after his death the obligation descends upon his heir, who, on defect of personal assets, is bound to discharge it, provided he has real assets by descent as a recompense. If the condition of a bond be impossible at the time of making it, or be to do a thing contrary to some rule of law that is merely positive, or be uncertain, or insensible, the condition alone is void, and the bond shall stand single and unconditional: for it is the folly of the obligor to enter into such an obligation from which he can never be released. If it be to do a thing that is *malum in se*, the obligation itself is void: for the whole is an unlawful contract, and the obligee shall take no advantage from such a transaction. And if the condition be possible at the time of making it, and afterwards becomes impossible by the act of God, the act of law, or the act of the obligee himself, there the penalty of the obligation is saved: for no prudence or foresight of the obligor could guard against such a contingency. On the forfeiture of a bond, or its becoming single, the whole penalty was recoverable at law: but here the courts of equity interposed, and would not permit a man to take more than in conscience he ought, viz. his principal, interest, and expenses, in case the forfeiture accrued by non-payment of money borrowed; the damages sustained upon non-performance of covenants; and the like. And the statute 4 and 5 Ann. c. 16. hath also enacted, in the same spirit of equity, that in case of a bond, conditioned for the payment of money, the payment or tender of the principal sum due, with interest and costs, even though the bond be forfeited and a suit commenced thereon, shall be a full satisfaction and discharge.

BOND, in masonry and brick-laying, is when

bricks or stones are as it were knit and interwoven; and when they say, make good bond, they mean that the joints are not made over, or upon other joints; but reach at least six inches, both within the walls and on the surface, as the art of building requires.

BOND (John), a commentator on Horace and Persius, was born in Somersetshire, in 1550, and educated at Winchester. In 1569 he was entered a student at Oxford. He took his degree of B.A. in 1573, and that of M.A. in 1579; soon after which he was appointed master of the free school at Taunton, Somersetshire. In this employment he continued many years with great reputation, but, being at length weary of his laborious employment, he commenced physician, and became eminent in that capacity. He died in 1612; he wrote, 1. *Commentarii in Poemata Q. Horatii*, 8vo. 2. *Commentarii in sex Satyras Persii*; Lond. 1614, 8vo.

BONDAGE properly signifies the same with slavery, but in old law books is used for villenage. See VILLENAGE. Tenants in bondage paid heriots, and did fealty; they were not to fell trees in their own garden, without licence of the lord.

BONDAGE BY THE FORELOCK (*Bondagium per anteriores crines capitis*), was when a freeman renounced his liberty, and became slave to some great man, which was done by the ceremony of cutting off a lock of hair from the forehead, and delivering it to his lord, denoting that he was to be maintained by him for the future. Such a bondman, if he reclaimed his liberty, or was fugitive from his master, might be drawn again to his servitude by the nose, whence, it is said, the origin of the menace to pull a man by the nose.

BOND-MEN, in Roman antiquity, were of two kinds, the one called *servi*, who were those either bought for money, taken in war, left by succession, or purchased by some other lawful acquisition; the others born of their bond-women, and called *vernae*. We may add a third kind, mentioned by Justinian, called *adscripiti glebe*, or *agricensiti*; who were not bound to the person, but to the ground or place, and followed him who had the land. These in our law are called *villains regardants*, as belonging to the manor or place.

BONDOKDAN, in Turkish polity, a title given to the master of the ordnance in the service of the sultan of Egypt. It is derived from the Turkish word *bonduk*, a nut, and applied metaphorically to a musket ball. It was the surname of the Sultan Bibars.

BONDORF, a county of Suabia, belonging formerly to the Benedictine abbey of St. Blasius. It is situated in the Black Forest, and, in 1802, was transferred to the grand prior of Heitersheim; in 1805 to the king of Wirtemberg, and in 1806 to the grand duke of Baden. Including the lordship of Blumeck, it contains 7500 inhabitants, and yields a revenue of about £5000 sterling. It was formerly divided into eight parishes, containing the balliages of Bondorf, Ewatingen, and Bettmaringen. Bondorf, the chief town, has 820 inhabitants, and is the head of the bailiage, in the circle of the Danube, in the Baden dominions. twenty-eight miles north of Zurich, and six N.N.W. of Stuhlingen.

BONDOUN, a kindom on the western side of Africa; bounded on the east by Bambouk, on the south-east and south by Tenda, on the south-west by Woolli, on the west by Foota Terra, and on the north by Kajaaga. It lies between 12° and 14° of N. lat. and between 8° and 11° W. long. The name of its capital is Fat-teconda. Its soil is in many places naturally fertile, the face of the country well wooded, and agreeably diversified by gentle inequalities. Without much culture it yields rice and Indian corn in abundance, and its advantages for pasture encourage the breeds of the useful quadrupeds. The inhabitants are of the race of the Foulahs, and profess the Mahommedan faith. Their government is monarchical but not absolute. The lower orders are kept in a state of vassalage by individual proprietors, but the master has not the power of life and death over his slave. Every town or district has a chieftain or governor, who distributes justice and preserves order. Their arts are few and rude, and their efforts principally confined to acquire the means of subsistence. In the towns, however, schools are established for teaching the young, whether born of parents professing the true faith, or of pagans, to read the koran. The commerce of the people of Bondou is considerable, when compared with that of some of the surrounding states, and the necessities of life can be procured in abundance. Mr. Park could purchase a fowl for a button or bit of amber, and for six or eight amber beads he could have bought a bullock. Goats' flesh and mutton were proportionably cheap. Poultry of all kinds, except the turkey, could be found everywhere, and Guinea fowls and partridges abounded in the fields. Their trade consists of slaves, gold-dust, ivory, gums, and perfumes; for which they obtain iron, salt, and trinkets. The king demands a tax from traders, which is considered as heavy.

BOND-SOCOME, an old law term, signifying an obligation to grind at the mill of the lord of the manor. See **THIRLAGE**.

BONDUC, in botany, the name given by Plumier to a genus of plants, characterised by Linnaeus under the name of guilandina.

BONE', *v. & n.* } Ang.-Sax. *ban*; Germ. *bein*; Swed. and Dutch, *been*; similar to *Bau-bo'ny*, *to go*; to step forward: hence bone, because by virtue of the bones we are enabled to walk; to go; to exercise locomotion. Bone-lace is lace worked or manufactured upon bones. Boneset, to set a dislocated or fractured bone into its place.

To make no bones. To make no scruple: a metaphor taken from a dog, who readily swallows meat that has no bones. Bones is used, figuratively, for dice.

We strive, as did the houndes for the *bone*;
They fought all day, and yet her part was none,
Ther came a kyte, while that they were so rothe,
And bare away the *bone* betwixt hem bothe.

Chaucer's Cant. Tales.

And underneath their feet all scattered lay,
Dead skulls and *bones* of men whose lives had gone
astray.

Spenser.

I have given suck, and know
How tender 'tis to love the babe that milks me.

I would, while it was smiling in my face,
Have pluckt my nipple from his *boneless* gums,
And dasht the brains out.

Shakespeare.

Should God create another Eve, and I
Another rib afford, yet loss of thee
Would never from my heart; no, no, I feel
The link of nature draw me: flesh of flesh,
Bone of my *bone* thou art, and from thy state
Mine never shall be parted, bliss or woe.

Milton.

Puss had a month's mind to be upon the *bones* of
him, but was not willing to pick a quarrel.

L'Estrange.

The learned rabbins of the Jews
Write there's a *bone*, which they call leuz,
I' the rump of man, of such a virtue,
No force in nature can do hurt to.

Butler's Hudibras.

But then my study was to cog the dice,
And dexterously to throw the lucky dice:
To shun ames acc, that swept my stakes away;
And watch the box, for fear they should convey
False *bones*, and put upon me in the play.

Dryden.

Like Æsop's hounds contending for the *bone*,
Each pleaded right, and would be lord alone.

Id.

At present my desire is to have a good *bonesetter*.

Denham.

Unlike to living sounds it came,
Untmixed, unmelodised with breath;
But grinding through some scrannel frame,
Creaked from the *bony* lungs of death.

Langhorne.

Some have amused the dull sad years of life
(Life spent in indolence, and therefore sad.)
With schemes of monumental fame; and sought
By pyramids of mausolean pomp,
Short-lived themselves, to immortalize their bones.

Cowper.

BONE is the hardest and most compact part of animal structure; it will be found defined in the article Anatomy: 'A uniform substance of a firm texture, without fibres, plates, or cells, but penetrated through by very delicate vessels; capable of being rendered artificially softer or harder, without any abstraction or addition of its substance that is perceptible.' This substance, although apparently different from other portions of the frame, is pretty nearly similar in ultimate composition. 'Bone,' says Richerand, 'deprived of the principle to which it owes its consistence, becomes soft, flexible, and resembles a cartilage which is resolvable by long maceration into a cellular tissue, similar to that of other parts. This tissue contains a pretty considerable number of arteries, veins, and lymphatics. The bones, therefore, are mere cellular parenchymas, whose areolæ contains a crystallised saline substance, which they separate from the blood, and with which they become incrustated, by a power inherent in their tissue, and peculiar to it. This earthy substance may be separated from the other portions of the structure by immersing the bone in nitric acid diluted with a sufficient quantity of water; or the same result may be obtained by inverting the analysis. If a bone be exposed to boiling heat for a few hours in Papin's digester, all its organised parts become dissolved, melt, and furnish a quantity of gelatine, after which there remains only an inorganic saline concretion. The different proportions of the saline to the organised part, vary considerably at different periods of life; the bones of the embryo are at first quite gelatinous. At the period of birth, and during the first years of life, the organic

part of the bone is in greater proportion; the bones are less apt to break, more flexible, possessed of more vitality, and, when fractured, are more speedily and more easily consolidated. In youth the two constituent parts are nearly in equal quantities; in adults the earthy and saline part forms two-thirds of the osseous substance; at last, gradually increasing in quantity, this earthy and saline part displaces, in old people, the part that is organised; hence their bones are weaker and more liable to fracture, and unite less readily. It may be said, therefore, that the quantity of calcareous earth deposited in bones, is in the direct ratio of the age; and that, on the contrary, the energy of the vital faculty of these organs, their flexibility, their elasticity, and their aptitude to become consolidated when their continuity is destroyed by accidents, are in an inverse ratio.

Of what, then, is this saline and earthy matter, which gives compactness and solidity to bone, constituted? Phosphate of lime enters so largely into the composition of the calcareous principle, that this salt has generally been considered its essence; modern chemists have, however, detected several other saline substances in bone, and the following extracts from Dr. Ure's Chemical Dictionary will present the reader with what has been ascertained, in respect to the kind, and proportion of these substances.

'Calced bones,' according to Berzelius, 'are composed in 100 parts of 31.9 phosphate of lime, 3 fluat of lime, 10 lime 1.1 phosphate of magnesia, 2 soda, and 2 carbonic acid, 100 parts of bones by calcination are reduced to 63. Fourcroy and Vauquelin found the following to be the composition of 100 parts of ox bones, 51 solid gelatine, 37.7 phosphate of lime, 10 carbonate of lime, and 1.3 phosphate of magnesia; but Berzelius gives the following as their constituents: 33.3 cartilage, 55.35 phosphate of lime, 3 fluat of lime, 3.85 carbonate of lime, 2.05 phosphate of magnesia, and 2.15 soda, with a little common salt.

About 1.40 of phosphate of magnesia was obtained from the calced bones of fowls by Fourcroy and Vauquelin. When the enamel of teeth, rasped down, is dissolved in muriatic acid, it leaves no albumen like the other bones. Fourcroy and Vauquelin state its components to be 27.1 gelatin and water, 72.9 phosphate of lime. Messrs. Hatchet and Pepys rate its composition at 78 phosphate of lime, 6 carbonate of lime, and 16 water and loss. Berzelius, on the other hand, found only 2 per cent. of combustible matter in teeth. The teeth of adults, by Mr. Pepys, consists of 64 phosphate of lime, 6 carbonate of lime, 20 cartilage, and 10 water or loss.'

The enamel of teeth seems to be free from cartilage, as it dissolves entirely in diluted nitric acid.

Origin and growth of Bones.—In the embryo, the parts that are eventually bone, consist; first, of a gelatinous substance, which next becomes, in some instances, cartilaginous; this change does not at all take place until some time has elapsed from the period of conception; and it is, indeed, doubtful whether the intermediate state of cartilaginous existence has place at all

in those bones which are formed early. According to Beclard and Serres, these last, that is those which are very early formed, pass immediately from their mucous or gelatinous, to their ossific state; or rather, the process of ossific deposit at once commences in this gelatinous condition. This being the case, it would seem, as stated by Dr. Copland in his notes to Richerand's Physiology, that 'cartilage is rather a provisional function, than a stage of ossification; a temporary condition of structure for the purpose of performing the offices of bone, and not a requisite antecedent to the ossific process.'

The mode in which soft yielding parts are converted into the harshness and inflexibility of bone, is exceedingly curious and interesting; to this subject we shall have more especially to advert in the article *PHYSIOLOGY*, and it may here suffice to state that the calcareous matter is regularly deposited from the vessels which furnish it into cavities and canals that are hollowed for its reception; the ossification commencing in the centre of the matrices, and proceeding towards the surface; the canals into which the ossific matter is deposited, become lined with a vascular membrane, which is evidently organised, for the purpose of assisting in the bony formation; it does not seem to have been quite made out, whether the concreting matter is ejected from its secreting vessels and membranes in a fluid state, or whether the deposit is, ab origine, solid; but it is most probable, as suggested by Beclard, Copland, and others, that the earthy matter is first thrown out into the membrane and cartilage in a fluid form, and that its subsequent solidification arises either from the deposit of a larger proportion of earthy matter, or from an absorption of the vehicle which gives it a fluid condition, or from the joint operation of both these causes.

There is one curious fact with respect to the changes which the progress of ossification implies, and which would seem, in proof, that deposition and absorption are constantly going on in organised bodies, even after the acme may have been obtained of destined formation or structure; it is this, that a tinge will be given even to the internal and central parts of the bones, by taking certain substances into the stomach, mixed with food; and, that this discoloration will gradually disappear when we cease to administer the materials in question. The bones of adult animals, and those most remote from the centre of circulation, will be the longest in undergoing this change, but even in these it is eventually effected. Du Hamel supposed that the bones would become colored and colorless in concentric layers, if an animal were fed, alternately, one week with madder and one without; and he supposed that additional matter was given to bone in the manner that successive layers are effected in the woody parts of trees; but he was mistaken in the fact, and it has been well observed, that the inference he deduced from the supposition is inconsistent with the regular and proportionate bearing that the osseous always maintains with the other portions of the animal frame:—if they increased, according to the hypothesis of Du Hamel, by

successive layers, they would grow, as age advanced, into masses vastly disproportioned to their destination and use.

The union of bones, after fracture, it may here be permitted us just to observe, is in a great measure similar to their first formation. Membranous matrices are first developed by the actions that are set up in the system, and then, into those newly formed membranes, ossific deposits are successively made in the manners above described. The principle upon which the periosteum, or membranous lining of bones, is subservient to their growth and nourishment, will be discussed under the head of *PHYSIOLOGY*.

Bones are extensively employed in the arts. Both in their natural state, and dyed of various colors, they are made into handles of knives and forks, and other articles of turnery. In the article *AMMONIA* it will be found how extensively these substances have been used for the manufacturing of volatile alkali, the coal of which forms bone black; or, if they are afterwards calcined to whiteness in the open air, they constitute the bone ashes of which cupels are made, and which, finely levigated, are used for cleaning articles of paste and some other trinkets, by the name of burnt hartshorn. The shavings of hartshorn, which is a species of bone, afford an elegant jelly; and the shavings of other bones, of which those of the calf are best, are often employed in their stead. On this principal Mr. Proust has recommended an economical use of bones, particularly with a view to improve the subsistence of the soldier; he first chops them into small pieces, throws them into a kettle of boiling water, and lets them boil about a quarter of an hour. When this has stood till it is cold, a quantity of fat, excellent for culinary purposes when fresh, and at any time fit for making candles, may be taken off the liquor. This in some instances amounted to an eighth, and in others, to a fourth of the weight of the bones. After this, the bones may be ground, and boiled in eight or ten times their weight of water, of which that already used may form a part, till about half is wasted, when a very nutritious jelly will be obtained. The boiler should not be of copper, as this metal is easily dissolved by the jelly; and the cover should fit very tight, so that the heat may be greater than that of boiling water, but not equal to that of Papin's digester, which would give it an empyreuma. The bones of meat that has been boiled are nearly as productive as fresh bones; but Dr. Young found that those of meat that had been roasted afforded no jelly, at least, by simmering or gently boiling.

Shells, by which several marine and some land animals are covered, crusts, or the covering of crustaceous animals, such as lobsters &c, horn, an animal matter principally membranous, and cartilage, are substances which, in a sort of graduating succession, hold an intermediate place between the completeness of bony structure, and decidedly fleshy substance. Indeed the link might be extended through ligament, tendon, and membrane into muscle; but to treat of these several substances, either as chemical bodies, or portions of animal organisation, is not the province of the present article: and we have already

stated that in ultimate composition there is not so much difference as might *à priori* be supposed between these different portions of organic totality.

BONE-ACE, a game at cards played thus: the dealer deals out two cards to the first hand, and turns up the third, and so on through all the players, who may be seven, eight, or as many as the cards will permit: he that has the highest card turned up to him, carries the bone; that is, one half of the stake; the other half remaining to be played for. Again, if there be three kings, three queens, three tens, &c. turned up, the eldest hand wins the bone. But the ace of diamonds is bone-ace, and wins all other cards whatever. Thus much for the bone; and as for the other half of the stake, the nearest to thirty-one wins it; and he that turns up or draws thirty-one wins it immediately.

BONE-SETTING, the art of replacing dislocated bones, and of joining the parts of fractured ones. See *SURGERY*, Index.

BONET (Theophilus), an eminent physician, born at Geneva March 15th, 1620. He took his degree of M. D. in 1643, after he had gone through most of the famous universities, and was for some time physician to the duke of Longueville. Meanwhile his skill in his profession obtained him considerable practice; but, being seized with deafness, it obliged him to retire from business. He wrote, 1. *Polyalthes, sive Thesaurus Medico-practicus*, 3 vols. fol.; 2. *Labyrinthi Medici Extricati*; 3. *Medicinæ Septentrionalis Collatitia*; and other works.

BONFADIO, or **BONFADIUS** (James), one of the most elegant writers of the sixteenth century, was born in Italy, at Gazano, near Salo. He was secretary to the cardinal Merinos, and after his death to the cardinal Chinucci. He afterwards read public lectures on Aristotle's politics, and on rhetoric; and was made historiographer to the republic of Genoa. He applied himself to compose the annals of that state, in which he satirised some great families. This creating him enemies, he was accused of unnatural crimes, and condemned to be burnt. Some say that this sentence was executed; and others that his punishment was changed, and that he was beheaded, A. D. 1550. His History of Genoa is esteemed. We have also some letters, some orations, and Latin and Italian poems of his, which were printed at Bologna, in 1746, 8vo.

BONFELD, a market town of Wirtemberg, in the district of the Lower Neckar, with a fine castle, six miles north-west of Heilbronn.

BONFINIUS (Anthony), flourished in the fifteenth century. He was a native of Ascoli in Italy, and attached himself to the belles lettres. Matthias Corvinus, king of Hungary, having heard of his learning, sent for him, retained him, and settled upon him a pension. He wrote, 1. A History of Ascoli; 2. A Treatise on Virginity and Conjugal Chastity; 3. A History of Hungary; and other works.

BONFIRE, *n. s.* From *bon*, good, Fr. and *fire*. A fire made for some public cause of triumph and exultation.

Ring ye the bells to make it wear away,
And bonfires make all day.

Spenser.

How came so many *bonsfires* to be made in queen Mary's days? Why she had abused and deceived her people. *South.*

BONFRERIUS (James), a learned Jesuit, born at Dinant in 1573. He wrote a Commentary on the Pentateuch, and learned notes on the Onomasticon, or description of the places and towns mentioned in the Scripture. He died at Tournay in 1643, aged seventy.

BONGARS, or **BONGARSIA**s (James), a native of Orleans, was one of the most learned men of the sixteenth century. He was for nearly thirty years employed in the most important negotiations of Henry IV. at the courts of the princes of Germany. A zealous protestant; when very young he had courage to write and post up in Rome a spirited answer to a bull of pope Sixtus V. The public is obliged to him for the edition of several authors who had written the History of the Expeditions to the Holy Land; he also published among other works an edition of Justin, in which he restored several passages. He died in 1612, aged fifty-eight.

BONGRACE, *Fr. n. s. bonne grace*. A forehead-cloth, or covering for the forehead. Not now used. *Skinner.*

I have seen her beset all over with émeralds and pearls, ranged in rows about her cawl, her peruke, her *bongrace*, and chaplet. *Hukewill on Providence.*

BONGRACE, in sea language, a frame of old ropes, or junks of cables, laid along the bows, sterns, and sides of ships sailing in cold latitudes, to preserve them from damage by the flakes of ice.

BONI, a considerable state of the island of Celebes. Its present capital is at the head of the Bay of Boni, and the natives are called Bugis; they were converted to the Mahomedan religion about the year 1512, and acquired their present political influence, and their victory over the Macassars of Goa, by the alliance and intrigues of the Dutch, about the latter end of the seventeenth century. See **CELEBES**. The bay, sometimes called Buggis Bay, and Sewa by the natives, is on the south coast of Celebes, extending about 180 miles in length, and 55 or 60 in average breadth. It is environed with towns and villages, but full of rocks and shoals.

BONI, an island in the Eastern Seas, lying off the harbour of Boni, on the north-east coast of Waygeoo, is sandy, low, and woody, inhabited only by a few fishermen.

BONIFACE, I., pope of Rome, was elected A. D. 418, and exerted himself much to establish the supremacy of Rome over the other churches. St. Augustine dedicated to him his book against the Pelagians. He died A. D. 423.

BONIFACE II. governed the papal see only a year and two days. He was elected on the death of Felix IV. A. D. 530, but was opposed by the anti-pope Dioscorus. He appointed Vigilius his successor, but afterwards annulled his appointment, finding Vigilius not popular. He died in 531.

BONIFACE III. was elected A. D. 606, and reigned only eight months and twenty-three days; yet in that short period, by favoring the emperor Phocas, he got the important title of 'universal bishop' exclusively conferred on him-

self and his successors. Alstedius dates the beginning of the reign of the Beast under this pope. He was succeeded by

BONIFACE IV., who obtained the additional favor from Phocas, of converting the famous heathen temple, built by Agrippa, called the Pantheon, into a church. Several literary works are ascribed to him, but they are suspected to be spurious. He died A. D. 614, in the ninth year of his pontificate, and was canonised.

BONIFACE V. was elected pope on the death of Deusedit, A. D. 618, and was succeeded by Honorius in 626.

BONIFACE VI. was raised to the papal chair on the death of Formosus, A. D. 895, but enjoyed his pontifical dignity only fifteen days.

BONIFACE VII. has the title of anti-pope, because in 974 he caused Benedict VI. to be strangled in prison, and after the election of Benedict VII. removed the treasures of the church to Constantinople. He however returned after the death of Benedict, and caused his successor, John XIV., to be murdered; but died himself soon after, and his body was dragged by the feet about the streets.

BONIFACE VIII. obtained the pontifical dignity in 1294. Alstedius says that 'he entered like a fox, reigned like a lion, and died like a dog.' In 1297 he canonised St. Louis king of France; and in 1300 instituted a jubilee to be held every hundred years following. At this jubilee he dressed himself in his pontifical habit, and the next in imperial robes; telling the emperor Albert's ambassadors that their master's election was of no avail without his authority. He boasted that he was the keeper of the keys of heaven; and caused two drawn swords to be carried before him as emblems of his two-fold authority. He died of fever in 1303.

BONIFACE IX. was elected pope A. D. 1389, on the death of Urban VI., and enjoyed the papal dignity fourteen years and eleven months, but not without competitors; for at this time there was a succession of anti-popes at Avignon for about fifty years, which Roman Catholic writers style 'the grand schism,' and sometimes there were three popes existing at once. He died A. D. 1404.

BONIFACE (St.), an Englishman born at Crediton in Devonshire, and originally named Wilfrid. He preached the gospel among the barbarous nations; and though created archbishop of Mentz by Gregory II. soon after resigned his office to go and preach in East Friesland, where he was martyred by the pagans on the 5th of June, 754. His letters were published by Senarius.

BONIFACIO, a sea-port of Corsica, at the south extremity of the island, from which the straits between Corsica and Sardinia have their name: but the harbour is difficult of access. The chief employment of the inhabitants is in the coast fishery. Population about 3000.

BONIS ARRESTANDIS. See **ARRESTANDIS**.

BONIS, ARRESTO, &c. See **ARRESTO**.

BONIS NON AMOVENDIS, in law, is a writ directed to the sheriffs of London, &c. charging them, that a person against whom judgment is obtained, and prosecuting a writ of error, be not

suffered to remove his goods until the error is determined.

BONN, or Bon, an ancient and strong city of Prussia, once the residence of the elector of Cologne. It is of great consequence in time of war, from its situation on the Rhine, and was well fortified by the elector, who had a fine palace and beautiful gardens here. It suffered severely from bombardment when garrisoned by the French in 1689, and again in 1703, when it was taken by the duke of Marlborough. In 1717 the greater part of the fortifications were demolished. A valuable cabinet of natural history, collected in 1769, was destroyed by the French in 1794. The academy was instituted in 1777, received the titles and privileges of an university in 1786, and was converted by the French, first into a central school, and afterwards into a Lyceé. Bonn was formerly in the French department of the Rhine and Moselle, and lies in an agreeable and fertile country. The population at the end of the last century was stated to be 11,000, one-half of whom were artists and mechanics, and the rest attached to the court of the elector of Cologne, which was held here since the year 1268; it is now not above 9000. The only trade carried on is in the hands of Jews, who are about 200 in number, and live in a single street. The town has four parish churches; that of St. Martin is built in the form of a rotunda. The monastic establishments have been mostly suppressed.

BONNA, in ancient geography, one of the fifty citadels built by Drusus on the Rhine; supposed by some to be the same with the Ara Ubionum; now called Bonn.

BONNA, in zoology, a name given by Pliny and others to the Bonasus.

BONNAGE, in our old feudal customs, not yet wholly abolished, an obligation on the part of a tenant to cut down, when called upon, part of the proprietor's corn.

BONNEFONS (John), a Latin poet, born at Clermont in Auvergne, and lieutenant-general of Bar sur Seine, acquired great reputation by his Pancharis, and other poems. He died in 1614, at the age of sixty.

BONNER (Edmund), bishop of London, of infamous memory, was born at Hanley in Worcestershire, and generally supposed to be the natural son of one Savage, a priest; who was the natural son of Sir John Savage of Clifton, in the same county. Strype, however, says he was assured that Bonner was the legitimate offspring of a poor man, who lived in a cottage known in his day by the name of Bonner's Place. About 1512 he entered student of Broadgate Hall in Oxford, and in 1519 was admitted bachelor of the canon and civil law. About the same time he took orders, and obtained preferment in the diocese of Worcester. In 1526 he was created doctor of canon law. Having acquired the character of a shrewd politician and civilian, he was distinguished by cardinal Wolsey, who made him his commissary for the faculties, and heaped upon him a variety of church preferments. He possessed at one time the livings and preferments of Blaydon and Cherry-Burton in Yorkshire, Ripple in Worcestershire, East Dereham in Nor-

folk, a prebend of St. Paul's, and the archdeaconry of Leicester. Bonner was with the cardinal at Cawood, when he was arrested for high treason. After the death of that minister, he soon insinuated himself into the favor of Henry VIII. who made him one of his chaplains, and employed him in several embassies, particularly to the pope. In 1532 he was sent to Rome with Sir Edward Kame, to answer for the king, whom his holiness had cited to appear in person or by proxy. In 1533 he was again despatched to Clement VII. at Marseilles, upon the excommunication of king Henry on account of his divorce. On this occasion he threatened the pope with so much resolution, that his holiness talked of burning him alive, or throwing him into a cauldron of melted lead; upon which Bonner thought fit to return home. In 1538, being ambassador in France, he was nominated bishop of Hereford; but before consecration was translated to the see of London, and enthroned in April 1540. Henry VIII. died in 1547, while Bonner was ambassador with the emperor Charles V. During this reign he was zealous in his opposition to the pope; and, to please the king, favored the Reformation; but on the accession of young Edward, he refused the oath of supremacy, and was committed to the Fleet; however, he soon thought fit to promise obedience to the laws, and was accordingly released. He continued to comply with the Reformation; but with such manifest neglect and reluctance, that he was twice reprimanded by the privy council, and in 1549, after a long trial, was committed to the Marshalsea, and deprived of his bishopric. The succeeding reign gave him ample opportunity of revenge. Mary was scarce seated on the throne, before Bonner was restored to his bishopric; and soon after appointed vicegerent and president of the convocation. From this time he became the chief instrument of papal cruelty; and is said to have condemned no less than 200 Protestants to the flames in three years. Nor was this monster of a priest more remarkable for his cruelty than his boldness. When queen Elizabeth came to the crown, he had the insolence to meet her, with the rest of the bishops, at Highgate. But in the second year of her reign, refusing to take the oaths of allegiance and supremacy, he was again deprived and committed to the Marshalsea; where he died in 1569, after ten years confinement. There cannot be a stronger instance of the comparative lenity of the protestant church, than its suffering this miscreant to die a natural death. Several pieces were published under his name.

BONNET, *n. s. Fr. bonnet*. A covering for the head; a hat; a cap. Bonnet is also applied to certain small sails attached to the larger sails of ships.

This same day the Salamander being under both her corsers and bonnets, happened to strike a great whale with her full stemme. *Hakluyt's Voyages.*

Go to them with this bonnet in thy hand,
And thus far having stretched it, here be with them,
Thy knee bussing the stones; for, in such business,
Action is eloquence. *Shakspeare. Coriolanus.*

They had not probably the ceremony of vailing their bonnet in their salutations; for, in medals, they still have it on their heads. *Addison.*

Next Camus, reverend sire, went footing slow,
His mantle hairy, and his *bonnet* sedge,
Inwrought with figures dim, and on the edge
Like to that sanguine flower, inscribed with woe.
Milton's Lycidas.

BON'NET, in fortification, a kind of little ravelin, without any ditch, having a parapet three feet high, anciently placed before the points of the salient angles of the glacis.

BONNET A PRESTRE, or priest's cap, in fortification, is an outwork, having at the head three salient angles, and two inwards. It differs from the double tenaille only in this, that its sides, instead of being parallel, are like the queue d'hironde, or swallow's tail, that is, narrowing or drawing close at the gorge, and opening at the head.

BONNET (Chas.) a naturalist and metaphysician, was born at Geneva in 1720. He was intended for the law, but accidentally meeting with the *Spectacle de la Nature*, of Le Pluche, and Reaumur's *Memoirs on Insects*, he resolved to devote himself to the study of nature. At the age of twenty he had made several discoveries in entomology, and at twenty-seven he formed his system of vegetable physics. About this time he appeared as a writer in a *Treatise on Psychology*, which was followed by his *Analytical Essay on the Mental Powers*. In 1762 and 1764 he published *Considerations on Organised Bodies*, and also *Contemplations of Nature*. His last work was *Palingenesia, or Thoughts on the Past and Future State of Animal Beings*. He was a member of the Royal Society of London, and of several other learned bodies. He died at Geneva May 20th, 1793.

BONNETELLA, in entomology, a species of tinea. The wings are white, with two little silvery lines, the posterior one of which is waved; a native of Europe.

BONNETIA, in botany, a genus of class polyandria, order monogynia. CAL. five-leaved; PETALS five; CAPS. three-celled, three-valved; SEEDS many. Species but one, a native of Cayenne; a tree with obtuse glabrous leaves, and purple flowers.

BONNEVAL (Claudius Alexander count de), known in the latter part of his life by the name of Osman Bashaw, descended from a family related to the blood-royal of France, entered at the age of sixteen into the service of that crown, and married the daughter of the marshal de Biron. He made the campaign in Flanders in 1690; but soon after left the French army, and entered into the imperial service under prince Eugene, who honored him with an intimate friendship. The intrigues of the marquis de Prié, his inveterate enemy, ruined his credit, however, at the court of Vienna, and caused him to be banished the empire. He then offered his service to the republic of Venice and to Russia; which being declined, his next tender was to the grand seignior, who gladly received him. It was stipulated that he should have a body of 30,000 men at his disposal; that a government should be conferred on him, with the rank of bashaw of three tails, and a salary of 10,000 aspers per day; and that in case of a war he should be commander-in-chief. The first ex-

pedition he engaged in after his arrival at Constantinople was to quell an insurrection of Arabia Petraea, which he effected; and at his return had large offers made him by Khoulî Khan, but did not choose to accept them. Some time after, he commanded the Turkish army against the emperor, over whose force he gained a victory on the Danube. But Bonneval on his return, notwithstanding his services, was first imprisoned, and then banished to the island of Chio. The sultan, however, continued his friend; and the evening before his departure made him bashaw-general of the Archipelago, which, with his former appointment of beglerberg of Arabia, rendered him one of the most powerful persons in the Ottoman empire. In this island he found a retirement quite agreeable to his wishes. He did not however long enjoy it, being sent for back, and made topigi or master of the ordnance, a post of great honor and profit. He died in this employment, aged seventy-five, in 1747, and left memoirs of his own life.

BON'NY, } A comparatively modern
BON'NILY, } word, not introduced into our
BON'N'ESS. } earlier lexicons. It is derived, no doubt, from the French, *bon, bonne*. It is now rather a Scottish than an English word, and signifies handsome, beautiful, gay, merry, cheerful, blithe. It seems to be generally used in conversation for plump and healthy.

O bonnie, bonnie was hir mouth,
And cherry were hir cheiks,
And clear, clear was her yellow hair
Whereon the reid bluid dreips.

Edom of Gordon, in Percy.

Then sigh not so, but let them go,
And be you blithe and bonny. *Shakespeare.*

Match to match I have encountered him,
And made a prey for carrion kites and crows
Even of the bonny beast he loved so well. *Id.*

Thus wailed the louts in melancholy strain,
Till bonny Susan sped across the plain. *Gay*

How can I busk a bonny bonny bride?

How can I busk a winsome marrow?

How love him on the banks of Tweed,
That slew my luvè on the braies of Yarrow.

W. Hamilton's Braes of Yarrow.

Wee, modest, crimson-tipped flower,
Thou's met me in an evil hour;
For I maun crush amang the stoure

Thy slender stem,
To spare thee now is past my power,
Thou bonnie gem. *Burns.*

BON'NY, among miners, a bed of ore, differing only from a squat as being round, whereas the squat is flat. See **SQUAT**.

BONNYCASTLE (John), late professor of mathematics, at the Royal Military Academy at Woolwich, was born at Whitechurch in Buckinghamshire. Though of respectable parentage, he was chiefly indebted to his own exertions for the extensive knowledge which he acquired. He came to London young, and married, when only nineteen, a lady named Rolt, on whose death, soon after, he became private tutor to the two sons of the earl of Pomfret. After spending two years at Easton in Northamptonshire, he was appointed one of the mathematical masters at Woolwich, where for more than forty years he devoted his time to that important establishment,

and to the composition of his able works on the mathematical science. The Scholar's Guide to Arithmetic was his first production, and has passed through many editions. His Guides to Algebra and Mensuration have also long been ranked among the most useful school-books. He also wrote a Treatise upon Astronomy, 8vo.; the Elements of Geometry, 8vo.; a Treatise on Plane and Spherical Trigonometry, 8vo.; a Treatise on Algebra, 2 vols. 8vo.: and was the author of a translation of Bossut's History of the Mathematics. He also wrote various articles in the early part of Dr. Rees's Cyclopædia, and died at Woolwich, May 15, 1821.

BONO ET MALO, WRIT DE, in law, a special writ of gaol-delivery, anciently used for each particular prisoner.

BONONCINI (Giovanni), an eminent composer of music, who for some time divided the opinions of the cognoscenti of this kingdom with respect to the comparative merits of himself and the great Handel; which gave occasion for the well-known epigram on the disputes between Tweedle dum and Tweedle dee, said to have been written by Swift. An Italian opera was published with Bononcini's name prefixed to it, entitled *Pharmaces*.

BONONIA, an ancient town of Gallia Belgica, supposed to be the Portus Iccius of Cæsar, and the Gessoriacum of Mela. Peutinger's map expressly calls Gessoriacum Bononia. It is now *Borclogne*.

BONONIA, a town of Italy, in Gallia Cispadana; a name probably given by the Gauls, with reference to the Belgic Bononia. Its ancient name when in the hands of the Tuscans, who were expelled by the Gauls, was Felsina. In A.U.C. 563 the Romans led a colony thither; which about the beginning of the Actian war, was increased by Augustus, and was the Colonia Bononiensis of Tacitus. It is now called Bologna. See *Bologna*.

BONONIA, a town of Mæsia Superior, on the Danube; now Bodon in Bulgaria.

BONONIA, a town of Pannonia Inferior, between Mursa to the north-west, and Taurinum to the east.

BONONIA (John de), a native of Sicily, archdeacon of Palermo, and chaplain to Charles V. He was deputed by the emperor to an assembly of divines, who met in 1553, to decide the question whether the people should be allowed to read the Bible in the native language. Bononia violently espoused the negative side, and the assembly decided accordingly. He published a work on predestination at Louvain in 1555.

BONONIAN STONES. See *Bolognian*.

BONONIENSIS, in ornithology, the greater lapwing, the tringa Bononiensis of Gmelin, and *rauellus Bononiensis* major of Brisson. The legs are ochraceous; head and upper part of the neck chestnut; body black above, beneath white; throat and breast spotted with ferruginous.

BONPLANDIA, in botany, class pentandria, order monogynia. Its generic characters are: *CAL.* five-toothed: *COR.* monopetalous, tube longer than the calyx: *STAM.* five, inclining: *PIST.* germ superior; *STYLE* capillary: *STIG.* bifid: *PER.* capsule ovate, three-sided: *SEEDS* three. *B. geminiflora*, an annual plant: a native of Spain.

BONS-HOMMES, or *BON-HOMMES*, a sort of hermits of St. Augustin, founded by F. de Paula. They were brought over into England in 1283, by Edmund earl of Cornwall, and settled at Ashridge in Bucks, besides which, they had only one house more at Edington in Wiltshire. They followed the rule of St. Austin, and wore a blue habit. The name is said to have arisen from Louis VI. of France, who used to call F. de Paula, prior to the order, *Le bon homme*. Till then they had been called the *Minimi*, or the order of *Grammont*.

BONTIA, or wild olive of Barbadoes, a genus of the angiospermia order, and didynamia class of plants; natural order, fortieth, personata: *CAL.* is quinquepartite: *COR.* is bilabiated; inferior lip tripartite and revolute; the drupe is ovate and monospermous, with the apex turned to one side. One species only, viz. *B. daphnoides*, with a yellow corol, having a purple line down the lower lip. This plant is generally cultivated in Barbadoes for hedges and other fences, being of rapid growth, and soon attaining its natural height of about ten feet.

BONVICINO (Alexander), called *Le Moretto*, history and portrait painter, was born at Rovate in 1514. He was a disciple of Titian, but having seen the designs of Raphael, he gave himself up entirely to study those masterpieces of art and genius; which he did with such judgment that he became an exceedingly good painter. His works were eagerly bought up, being admired for the tenderness of the penciling; the correctness and spirited expression of the figures; the neatness of the finishing; and the rich variety of the draperies. He was equally excellent in portrait, and by many was placed in competition with Titian himself. He died in 1564.

BONVOULOIR ISLANDS. They are reefs of the archipelago of Louisiana, in the South Pacific Ocean. The French voyagers who sailed in quest of La Perouse, saw some of the natives in two masted canoes, which were well carved, and with steering paddle, or helm, both behind and before. The people were of middle size, and had woolly hair: shy and distrustful, but, unlike most of the southern islanders, testified no particular desire for iron.

BONUS HENRICUS. See *CHENOPodium*.

BONZES, Indian priests. The Tonquinese have a pagod or temple in each town; and each pagod has at least two bonzes belonging to it; some have thirty or forty. These bonzes, to distinguish themselves from the laity, wear a chapel about their necks consisting of 100 beads; and carry a staff, at the end of which is a wooden bird. They live upon the alms of the people; yet are very charitably disposed, and maintain several orphans and widows out of their own collections.

BONZES OF CHINA are the priests of the Fohists, or sect of Fohi. It is one of their established tenets, that great rewards are allotted for the righteous, and punishments for the wicked in the next world; and that there are various mansions in which the souls of men will reside, according to their different degrees of merit. But, in order to deserve the favor of Heaven, the bonzes instruct the people to treat the priests

with respect and reverence, to support and maintain them, and to erect temples and monasteries for them. They tell them, that unless they comply with their injunctions they will be cruelly tormented after death, and pass through a disagreeable variety of transmigrations; that they will be changed into mules, asses, rats, mice, &c. The Chinese bonzes, according to F. le Comte, are a gang of dissolute idle fellows. All their aim is to excite people to commiserate their abject condition: to which end they have various impostures. When the common arts of address fail them, they try what public acts of penance will do. Some of them drag heavy chains thirty feet long after them; some sit in the highway knocking their heads against flint stones; others set particular drugs on fire upon their heads; all these are several ways of drawing the attention and exciting the compassion of the people, and they seldom fail of success. F. Navarrete tells us, that the bonzes are obliged to chastity; and that on the 2d of April, 1667, a petty king of Canton had condemned eleven of them to be burnt alive for incontinence. He adds that it was reported of an empress of the last reigning family, who had a particular kindness for the bonzes, that she granted them a dispensation for the use of women during three days. The bonzes of China, according to the same author, are computed at 50,000. It has been observed that there is so strong a likeness between the apparent worship of many of the priests of Fo (see Embassy to China, vol. ii. p. 100) and that which is exhibited in churches of the Roman faith, that a Chinese conveyed into one of the latter, might imagine the votaries he there saw were adoring the deities of his own country. On the altar of a Chinese temple, behind a screen, is frequently a representation which might serve for the Virgin Mary, in the person of 'Shin-moo', or the Sacred Mother, sitting in an alcove with a child in her arms, and rays proceeding from a circle which are called a glory round her head, with tapers burning constantly before her. The long loose gowns of the Ilo-shangs, or priests of Fo, bound with cords round the waist, would almost equally suit the friars of the order of St. Francis, the former live like the latter in a state of celibacy, reside together in monasteries, and impose occasionally upon themselves voluntary penance and vigorous abstinence.

BONZES OF JAPAN are, for the generality, gentlemen of the highest extraction; for when a gentleman of quality finds his family grow too numerous, nay, when he has only two sons, he generally makes the youngest a bonze, to prevent all domestic broils and confusions. These priests are dressed in various colors; their apartments are very commodious, and situated in the healthiest parts of the country.

BOOBY, } A word of no certain etymology. Henshaw thinks it a corruption of bull-beef, ridiculously. Skinner imagines it to be derived from Span. *bobo*, foolish. Junius finds bowbard to be an old Scottish word for a coward, a contemptible fellow; from which he naturally deduces booby: but the original of bowbard is not known. Thus

far Dr. Johnson. Instead of bowbard being considered by Junius as an old Scottish word, the Ency. Met. says he derived it from the Greek *Βουβαρος*, as heavy as an ox. Ruddiman derives bowbard from the Latin *bubo*, an owl; both indicating heaviness; dulness; stupidity. The writer of the lexicon department in the Ency. Met. has ventured the following ingenious conjecture: 'The English booby is probably no more than an emphatic repetition of boy, sc. boy, boy; a boy indeed; a mere boy; having none but boyish childish qualities and dispositions; a simpleton. The verb boyed is used by Beaumont and Fletcher in a manner which strongly confirms this supposition. 'Baffled and boyed,' i. e. made a boy; a child; a booby; made a fool of; befooled. There is a sea-fowl, remarkable for its stupidity, called by the sailors a booby. These birds are easily caught; or if they belonged to our own species we should say, 'taken in.' A board is no sooner thrown out upon the surface of the water but the booby souses upon it with such violence as to be instantly stunned and taken. An excellent specimen of a fool.

Young master next must rise to fill him wine,
And starve himself to see the booby dine. King.

Where yet was ever found a mother,
Who'd give her booby for another. Gay.
BOODHI, BOUDDHA, or BUDDHA. See BUDDHA.

BOOK', v. & n. } Sax. boc, supposed from
BOOK'FUL, } boc, a beech, because they
BOOK'ISH, } wrote on beechen boards;
BOOK'ISHLY, } as liber, in Latin, from the
BOOK'ISHNESS, } rind of a tree. To be well
BOOK'LESS, } booked, in Gower, is to be
BOOK'BINDER, } well read in books; learned
BOOK'MAN, } in books; booklearned.
BOOK'MATE, } To book, in modern usage,
BOOK'-KEEPING, } is to write into a book. It
BOOK'SELLER, } is variously applied in
BOOK WORM. } composition. In books, is
familiarily to hold in kind remembrance. Without book, by memory; by repetition; without reading. A book is either a volume, a particular part of a work, or a register; a tradesman's ledger, in which he keeps his accounts.

And in this boke were written fabies
That clerkes had, in olde time,
And other poets put in rhyme
To rede, and for to be in minde
While men loved the law of kinde.
This boke ne spake but of such things,
Of queenes lives, and of kinges.
And many other thinges smale,
Amonge al this I fonde a tale.

Chaucer. Boke of the Duchesse.

Which to requite, the Red-crosse knight him gave
A booke, wherein his Saviour's testament
Was writt with golden letters rich and brave;
A worke of wondrous grace, and able soules to save.

Spenser.

See a book of prayer in his hand;
True ornaments to know a holy man.

Shakspeare.

I'll make him yield the crown,
Whose bookish rule hath pulled fair England down.

Id.

This civil war of wits were much better used
On Navarre and his bookmen; for here 'tis abused. Id.

This Armado is a Spaniard that keeps here in court,
A phantasm, a monarch, and one that makes sport
To the prince and his *bookmates*. *Id.*

I beseech your grace, let it be *booked* with the rest
of this day's deeds; or I will have it in a particular
baliad else, with mine own picture on the top of it. *Id.*

I'm not *bookish*, yet I can read waiting-gentle-
woman in the 'scape. *Id. Winter's Tale.*

They might talk of *booklearning* what they would,
but he never saw more unfeaty fellows than great
clerks. *Sidney.*

Sermons read they abhor in the church; but ser-
mons without *book*, sermons which spend their life in
their birth, and may have public audience but once. *Hooker.*

The modern dedications of *books* and writings as to
patrons is not to be commended; for *books*, such as
are worthy the name of *books*, ought to have no pa-
trons but truth and reason. *Bacon.*

Books must follow sciences, and not sciences *books*. *Id.*

— ever during dark
Surrounds me, from the cheerful ways of men
Cut off, and for the *book* of knowledge fair
Presented with a universal blank
Of Nature's works, to me expunged and rased,
And Wisdom at one entrance quite shut out. *Milton.*

Neither does it so much require *booklearning* and
scholarship, as good natural sense, to distinguish true
and false, and to discern what is well proved, and
what is not. *Burnet's Theory.*

He made wilful murder high treason; he caused
the marchers to *book* their men, for whom they should
make answer. *Davies on Ireland.*

Whate'er these *booklearned* blockheads say,
Solon's the veriest fool in all the play. *Dryden.*
He will quote passages out of Plato and Pindar, at
his own table, to some *booklearned* companion, with-
out blushing. *Swift.*

The *bookful* blockhead, ignorantly read,
With loads of learned lumber in his head,
With his own tongue still edifies his ears,
And always listening to himself appears. *Pope.*
Among those venerable galleries, and solitary scenes
of the university, I wanted but a black gown, and a
salary, to be as mere a *bookworm* as any there. *Id. Letters.*

I was so much in his *books*, that, at his decease, he
left me the lamp by which he used to write his lucu-
brations. *Addison.*

Xantippe follows her namesake; being married to
a *bookish* man, who has no knowledge of the world. *Spectator.*

The *bookseller* who heard him speak,
And saw him turn a page of Greek,
Thought what a genius have I found. *Gay.*
Books, like friends, should be few and well chosen. *Joineriana, 1772.*

Books are the staple materials of a LIBRARY.
Under the latter head, therefore, we shall present
the reader with the criteria of rare, scarce, and
useful books, together with the best general
mode of arranging them. Here we confine our-
selves to the ancient *materials* and *early forms* of
books.

The Latin words *liber* and *codex*, as well as
our own Anglo-Saxon *boc*, or *book*, clearly in-
dicate the early use of the rind or bark of trees
for the purpose of making books. In the early
part of the first American war some Trans-Atlan-
tic Friends, it is said, were advocates for return-
ing to this, among other primitive customs.

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They suggested, Dr. Franklin has told us, the
use of the bark of trees for the drawing up of
deeds and contracts to avoid the duty and stamp
upon paper. But their countrymen preferred a
bolder mode of settling the question. The leaves
of trees were, perhaps, a still earlier material of
books; but both kinds of books are in use to this
day among semi-barbarous nations. The Rus-
sians, not long since, discovered a considerable
library of bark books among the Calmuc Tartars:
the leaves were remarkably thick, long, and
narrow, and had been prepared previously to be-
ing written upon, by a double coat of black var-
nish. Copies of the Malay gospels and other books
are frequently brought from the east, written on
long slips of reed or bark, fastened by strings at
each end.

Local circumstances, the progress of the arts,
and the relative importance of the record or in-
formation to be perpetuated, have suggested the
use of a variety of other materials. Among
them are mentioned plates of lead and copper,
hardened clay, slate, horn, stone, and wood.
Josephus speaks of two columns, the one of
stone, the other of brick, on which the children
of Seth wrote their inventions and astronomical
discoveries. Porphyry mentions some pillars,
preserved in Crete, on which the ceremonies
practised by the Corybantes in their sacrifices
were recorded. Hesiod's works, it is said, were
originally written upon tables of lead, and de-
posited in the temple of the Muses, in Bœotia.
The ten commandments, delivered to Moses
were written upon stone we know; and Solon's laws
upon wooden planks. Tables of wood, box, and
ivory, were common among the ancients: when
of wood they were frequently covered with wax,
that people might write upon them with more
ease, or erase what they had written. Hence
the ancient stylus had a pointed and a flat end.
The leaves of the palm-tree were afterwards used
instead of wooden planks, and the finest and
thinnest part of the bark of trees, particularly
of the tilia, phillyrea, papyrus, the lime, the
ash, the maple, and the elm.

Job, while wearied by indefinite calumny, he
wishes his adversary had written a book, is parti-
cularly anxious that his early and remarkable tes-
timonies to the doctrine of a resurrection should
'be graven with an iron pen and lead on the rock
for ever,' as our version expresses it. Pliny
(Nat. Hist. lib. xiii. c. 1.) states that writing
on lead (*plumbulis voluminibus*) was of great
antiquity, and came in practice next after the
writing on barks and leaves of trees: it was
used, he adds, particularly 'in recording public
transactions.' Parkhurst says, I apprehend the
cutting or sculpturing on the rock (Job. xix.
24.) to be here mentioned as a different and
more durable method than even the engraving
on lead. This ancient book, according to the
same critic, probably alludes to the writing on
linen in chap. xxxi. 35, and wearing the record
as a tiara on the head.

Leather was an early animal substitute for the
less durable vegetable materials; the endeavour
to improve it gave rise, doubtless, to the invention
of parchment, on which most of the ancient MSS.
extant are written. See MANUSCRIPT.

X

BOOK-BINDING.—At what period book-binding, in its present form, came into use does not appear to be correctly ascertained. The earliest account we have of books informs us that they consisted of rolls of papyrus or parchment, fastened or strung together, see *Books*. We learn from Olympiodorus, 'that the Athenians erected a statue to the memory of that man who bound books by means of glue.' These rolls were fastened together, either in the centre or from the end, by means of a boss, upon which the most cunning and curious art was frequently lavished: it is probable that the value or importance of the MS. was sometimes indicated by the style of ornament introduced upon these bosses or fastenings.

Experience must soon have shown the great convenience of folding these sheets of vellum into fours or twos. It appears, however, that the previous method of a long roll continued to the days of Catullus, about forty years before Christ, and even for some time afterward. As soon, however, as the folded form came into use, the necessity of a cover of some description became apparent; and hence gradually arose book-binding in its present shape. These covers were, no doubt, at first a simple leaf of parchment or some other skin; but this, of itself, would soon have been found insufficient, and probably suggested the use of boards, which appear for a long time, to have been made of oak, as numerous specimens of books with oaken covers or boards are now existing, of a date as late as the sixteenth century.

The progress of book-binding, from the simple cover of the ancients to the magnificent style of decoration used by the modern book-binders, is a curious subject, and has never yet been attempted to be described. The earliest ornamented book, of which any account can be traced, is the Book of St. Cuthbert, supposed to have been bound in the middle of the seventh century; it is described by Ethelwold, one of the monks of Lindisfarne, as having been bound with gold and precious stones, *Bib. Dec. Vol. i. p. 1*. This book, consisting of a Latin text of the Gospels on vellum, is now in the British Museum; but the original binding has been replaced by a Russia coating; having, most likely, been despoiled of its ornaments at the period of the Reformation.

The next early specimen, of which we have any notice, is a Latin Psalter of the ninth century; the binding of this volume consists of oaken boards; on the exterior of the first of which is a large brass crucifix, formerly, perhaps, covered or washed with silver, from which it does not appear that at that period the leather or parchment cover was used over the boards. Another MS., supposed to be of the tenth or eleventh century, is also bound with oaken boards, the outside of one of which is inlaid with pieces of carved ivory, which Dr. Dibdin supposes to have been executed at a later period, probably from the piety of some subsequent owner of the book. Another very curious specimen of the twelfth century is thus described in Moule's *Bibliotheca Heraldica*, p. 493:—The original book upon which all our kings, from Henry I. to Edward VI., took the coronation oath, is now in the library of a gentleman in Norfolk. It is

a MS. of the four Evangelists, written on vellum, the form and beauty of the letters nearly approaching to Roman capitals. It appears to have been written and bound for the coronation of Henry I. The original binding, which is still in a perfect state, consists of two oaken boards, nearly an inch thick, fastened together with stout thongs of leather and the corners defended with large bosses of brass. On the right-hand side, as the book is opened, of the outer cover is a crucifix of brass double gilt, which was kissed by the kings upon their inauguration, and the whole is fastened together by a strong clasp of brass, fixed to a broad piece of leather secured with two brass pins. In archbishop Whitgift's Hospital at Croydon, is a folio Bible, printed by Barker, given to the Society by Abraham Hartwell, secretary to the archbishop in the year 1599. This Bible is preserved in a very curiously ornamented cover, with large brass bosses and clasps of the most elaborate workmanship; forming one of the most curious specimens of ancient binding extant. The binding has been repaired, in a wretched and most unfeeling manner, at the expense of Mr. John Lett, of Lambeth, in the year 1813, 214 years after its original binding.

Velvet seems to have been a favorite covering for books at an early period; but of this no notice appears of any specimen earlier than the fourteenth century, when Dr. Dibdin says, it is expressly noticed by Chaucer,

'A twenty bokes clothed in black and red;'

meaning, I presume, 'bound either in black or red velvet; for neither calf, vellum, nor forell, could be said to be black or red.' *Bib. Decam. vol. ii. p. 447, note*.

Coeval with velvet, silk seems to have been used as a cover for books. Vellum appears to have been introduced for binding in the early part of the fifteenth century, but then was quite plain. About the year 1510 vellum bindings began to be stamped, and there are now existing, in various libraries, some very delicately executed specimens of this stamped binding, totally different from any ornamental decoration that has been produced in modern times. Calf leather appears to have come into use about the same time as vellum; although Dr. D. mentions a specimen of stamped calf binding of the thirteenth century. At the beginning of the sixteenth century all the skill of the workman was lavished in ornamenting the sides, the backs being then quite plain, without even a lettering: the large centre ornaments of the sides, in common use at this time and the following century, are certainly superior, in boldness and beauty of design, to any of modern use. From this period up to the commencement of the present century there does not appear any very material improvement in book-binding; and, during the greater part of the eighteenth century, the art rather retrograded than advanced. A very slight inspection of the work of this period will prove the truth of the assertion, the shape of the books being clumsy, and the ornaments totally devoid of taste. Of late years, however, a spirit of improvement has arisen. The study of the antique has now become general,

and book-binding has fully participated, with other arts, in the advantages which it has imparted.

In order to render the following account intelligible, it will be necessary to begin with a description of the principal tools and implements used in the process of bookbinding.

1. *The Standing Press*.—This must be firmly, as well as conveniently, fixed; it consists of two upright cheeks, about six feet in height, placed about twenty-four inches apart. Between these cheeks, about five inches from the bottom, is placed the bed; and, near the top, the head, containing a box for an iron screw. The bed is about four inches, and the head usually twelve inches in thickness; both are firmly fastened to the cheeks by means of grooves. The swinging board, to which the screw, of about three inches diameter, is fixed, works perpendicularly between the head and bed of the press; and, by means of turning the screw into the box or lowering it, is either raised or depressed. The screw is worked by means of an iron bar, about five feet in length, to which the united strength of four men is frequently applied when the press is filled with books.

2. *The Cutting or Laying Press* consists of two strong cheeks lying horizontally across what is termed the shaving tub, which is a frame for holding the shavings from the edges of the books. It was formerly the practice to place the press across a tub, whence the name. Within the left cheek are cut worms for two wooden screws to work in; these are passed through two opposite holes in the right cheek, and are about two feet in length, having large heads to introduce the press pin, by which the books are pinched between the cheeks. On one side of the left cheek are nailed two slips of wood, about an inch and a half asunder, forming a groove for the plough to run in.

3. *The Plough*.—This, also, consists of two light cheeks, which are drawn together by a single screw in the centre; in one of these cheeks a groove is cut, exactly the thickness of the knife, which is fixed to the plough by means of an iron bolt, passing through the cheek, having a screw at the top to receive a nut; the knife then lies flat upon the cheeks of the cutting press. The mode of using it is as follows: the book intended to be cut being screwed up with a very small portion of the margin above the press, the plough is placed in the groove and opened so as to let the point of the knife clear the book; the head of the screw is then grasped with the right hand and the other end with the left and in this way moved backward and forward with a steady regular motion, at every turn contracting the screw a little, until the knife has passed through the book and removed the parts intended to be cut away.

4. *The Sewing Press*.—The bed is of hard wood, about one inch thick, fifteen inches wide, and about three feet in length; an opening is cut in it extending within a few inches of each end, and about an inch from the front edge; this opening is about three quarters of an inch wide. At both ends of the bed, in a parallel line with the opening, are fixed two wooden screws, furnished with nuts, supporting a bar for fastening the

strings or bands upon which the books are sewed; this bar rises and falls as the nuts are raised or lowered; the bands for sewing the books upon being fastened to the bar, the other end is twisted round small brass keys, introduced into the opening, and when the requisite number are so fixed they are made tight by raising the nuts under the bar.

5. *The Beating-Iron* is a plate or anvil, about five inches thick, and from eighteen inches to two feet square. It is firmly fixed on a piece of timber nearly of the same diameter let into the ground.

6. *The Beating-Hammer* is short and heavy, generally weighing about fourteen pounds; the face of this is perfectly smooth and inclining to convex, the handle being about six inches in length.

7. *The Backing-Hammer* is similar to a shoemaker's hammer, which is well known.

8. *Pressing Boards* are made of beech or hard wood, the small ones about half an inch thick, the larger ones thicker in proportion; these are of course flat, and of various sizes from folio to 12mo.

9. *Cutting Boards* are thin wedges of beech of different lengths.

10. *Backing Boards* are thicker than cutting boards, and the thick edge is bevelled off in order to make the ledge they are intended to form in the back of the book sharp.

TOOLS FOR FINISHING.

11. *Rolls* are used in ornamenting either the sides or backs of books. The roll is a brass wheel, upon the edge of which is cut the figure intended to be impressed on the book; they are of various patterns, from plain lines up to the most elaborate and classical designs, and are mounted on a carriage of iron, made to receive the axle of the roll, and a long wooden handle rested against the shoulder when used.

12. *Pallets* are also of brass, about two inches in length, upon the edge of which the pattern is cut in the same manner as the roll, but are only applicable to the backs of books.

13. *Back Tools* are ornaments of various descriptions, as flowers, crests, coats of arms, &c., cut in brass and fixed in handles about six inches in length.

14. *Alphabets* of all sizes are also cut in brass and fixed in handles, in the same manner as the back tools.

The art of book-binding may be divided into three distinct parts, each part being usually performed by different persons.

1. *Folding*, sewing, and collating.

2. *Forwarding*, or the state of the book from the sewing to the covering.

3. *Finishing*.

The book being given to the binder in sheets, the first process is folding; this, as well as sewing, is done by women, the pages being all placed exactly opposite to each other, and folded by means of an ivory folder: this must be done with considerable care, as, upon it, depends the regular appearance of the margin, absolutely necessary to a well bound book.

The book when folded, is taken by the for-


warder to the beating iron, and being divided into portions of about fifteen sheets, is beaten until it lies firm and smooth, the sheets being repeatedly shifted, so as to present each sheet to the action of the beating hammer; but, when recently printed books are to be bound, this operation must be performed in a very limited degree, otherwise it will cause the ink to set off on the opposite page. The book is then carefully collated by the signatures at the bottom of each sheet, and four leaves of blank paper being placed at each end, the volume is divided into three parts by pressing boards, and placed in the standing press, where, being firmly screwed down, they are left for some hours. The books when taken out of the press are put three or four together according to the thickness, and the edges of the sheets being brought quite square and even, by striking them smartly on the back and head upon the table or press, are placed between two boards in the cutting press, and five or six grooves are made in the back with a saw, to hold the bands upon which they are to be sewed.

The books are next given to the sewer, and being placed upon the sewing press, with the title page upwards, the bands are fixed to the press, as already described; they are then adjusted so that each cord shall come into a groove in the back of the book. Sometimes where great strength is required, as in Bibles, &c., the bands are made to project upon the back, in which case the sawing is omitted, and the books are sewed with raised bands. The blank paper is then lifted with the left hand, and being turned over is laid on the sewing press against the bands, and the needle being put in near the top with the right hand, is passed over by the left, close to the band; the needle is then inserted on the other side of the band and brought out at the next band, and so on until it is sewed all along: the first sheet of the book is then put on the press, and the needle being put in at the bottom, it is in like manner sewed from bottom to top, but as the back would be too much swollen with the thread, were each sheet sewed throughout (except where the sheets are unusually thick) it is necessary to sew two whole sheets or three half sheets at once, passing from top to bottom, or from tail to head, by taking one stitch in the first sheet, then taking a stitch on another, and returning to the first, a third stitch is given; the second sheet is then opened, the fourth stitch is made; and so on alternately until the end is reached by the *kettle stitch* made beyond the bands: if three half sheets are sewed on, the same method is pursued. When the books are all sewed, the keys are taken out and the strings are drawn through the threads to the proper lengths and cut separate.

The books now pass into the hands of the forwarder, whose first business it is to see that the back is quite square, and no thicker in one part than another; if the books are for extra binding, two leaves of marble or coloured paper are pasted down to the second fly leaf; the upper leaf being left loose to preserve the marble paper from damage in the course of the work. For common binding, the outside two white leaves are pasted together. The backs of the

books are then to be glued, and must dry gradually; the bands are then opened, and scraped away, in order to render the covers smooth when they are let into the boards.

The next process is *backing*, the book being laid on its side, on the press, the back is rounded with the backing hammer, at the same time drawing it over with the hand; it is now placed between the backing boards, the edge of the board being about one-eighth of an inch from the back of the book, and being put into the cutting press, and care being taken that it is quite even, it is well hammered down so as to form the grooves on both sides to hold the boards and render the back quite smooth and firm.

The boards are now to be cut to the proper width, previously to being put to the book; to ascertain which the width of the book is taken by compasses from the groove to the fore-edge, piercing through three or four leaves to ascertain how much must be cut away, allowing for the projection of the boards, which are then cut with the plough; the boards are then placed on each side of the book, and two holes being made with an awl opposite each slip or band, they are fastened to the book by the slips being drawn through the holes, and first well pasted; the ends of the bands are then cut off, nearly close to the board, and being placed on a small anvil, which is screwed into the end of the press for this purpose, are to be beaten flat or knocked down with the backing hammer; the books now in boards, are again pressed in the standing press, and the backs covered with thick paste, which is rubbed off as they stand in the press, with a handful of shavings. The next operation is cutting: the top of the book is marked on the beginning board by a square from the front; the book is placed between two boards, the one at the end of the book being above it, and that at the beginning even with the mark. It is then put into the cutting press with the first board or runner exactly even with the cheek, the part to be cut away projecting above the press; when cut, the book is taken out, and the length to which it is to be cut is ascertained by measuring from the head to the tail with compasses; the boards are then drawn down from the tail to the head, and being adjusted for the size of the square, for both ends, the book is again placed in the cutting press, and the part marked cut away; the fore-edge is next cut, by the back, which is now round, being brought perfectly flat; this is done by introducing two pieces of thin beech, called *trindle*, between the back of the book and the boards, the ends of the trindle resting on the inside of the boards, and the back of the volume resting on the middle, the boards standing out from the book at right angles, thus  the stem of the letter T representing the book, and the arms the covers; the cutting boards are then placed at each side of the book, and the whole being taken firmly between the palms of the hands, the back is struck smartly two or three times on the press; this brings the volume quite flat: the cutting board at the end of the book is then placed in a line with a mark which has been made with a bodkin, along the front of the board, and that at the beginning about an eighth

of an inch below it; it is now taken in the left hand, and turned up to see that the back is square, as well as sufficiently flattened, and is then placed in the press for cutting; the board at the beginning even with the cheek of the press, and that at the end standing as much above it as the cover is intended to project beyond the book; the leaves are then cut through as already stated.

Coloring or Gilding of the Edges.—For books in common bindings, the edges are merely sprinkled brown, red, or other colors, by a brush beaten against an iron pin.

To marble the edges, the books are dipped in a trough filled with gum water, with the various colors floating upon the surface. This process is never performed by bookbinders, being a separate business.

Gilding the edges is also a distinct trade; the gold is laid on with white of egg, and afterwards burnished.

When the edges are colored or gilt, the books are next *head-banded*. The head-band is a small piece of vellum cut to the size of the square, a part of the board which projects beyond the book. Head-bands are fixed to the top and bottom of the book, silk or cotton thread being twisted round, either of one, two, or three colors. The back of the book is then lined with cartridge or other thick paper, and well dried by a slow fire, being frequently rubbed with a folding-stick to spread the glue. A piece of triple cartridge paper is then cut out exactly the size of the back, and carefully moulded to the shape; and upon this false back four or five pieces of double leather form the bands: the book is now ready for covering. The leather to make the cover is then pasted all over with thick paste, and is drawn over the book, and the edges carefully turned over, the corners being cut off. The bands are then rubbed on each side with the edge of a cutting-board, or other hard piece of wood, to make them square and neat; the book being covered must be left until quite dry, and is then handed over to the finisher.

The first business of the finisher is to rub the edges, squares, and bands, a second time, with a piece of hard wood; the thick edges of the leather inside of the board are now pared away, and, if a set of books, the volumes are arranged in order, to see if the bands are all in a line. The covers are then washed with paste-water. Calf leather, as well as Morocco, is now generally colored in the dressing; if, however, the white leather is used, it is colored brown of various tints, by being washed over with a solution of salt of tartar, or sprinkled with copperas-water: sometimes, if the leather is good, the books are finished quite white, and if done carefully, this has a very chaste and neat appearance. Two pieces of Morocco pared thin, exactly the size of the pannel formed by the bands, are now stuck on the spaces between the bands, generally between the first and second and the second and third; when these are dry the back is again washed with paste-water. It is now glaired three times with white of egg, which must be carefully laid on with a soft sponge, each coat of glaire being allowed to dry before the next is laid

on. As soon as it is dry enough to be touched without smearing, the back is rubbed over with palm oil, and the gold having been cut into strips the width of the back of the book, the edge of the book is laid upon the strip of gold, and the book being carefully taken up, the gold falls over and immediately adheres to the oily matter on the surface of the glaire; in this manner the back is entirely covered with leaf gold, and the tools required for the ornaments being selected are allowed to heat gradually by a charcoal fire. The book being firmly fixed in the press, the tools for the ornaments are stamped on, taking care that the tools are neither too hot nor too cold; as in the former case the brilliancy of the gold will be injured, and in the latter case the impression will not be perfect. The loose gold is then wiped off into a cotton cloth (which being preserved, becomes valuable), and the book is lettered; this is done by taking up the letters singly, and pressing them when warm upon the lettering piece. This requires very great nicety, and can only be done properly after long practice. The letters ought not only to be placed exactly straight, but at regular distances from each other, and each line at its proper distance from the other; the loose gold is now rubbed off, and the back of the book is polished with an iron polisher, the book being fixed in the press and rubbed on the back with the iron heated. The sides of the book are now washed with paste-water, and then glaired three times with white of egg. Common bindings are merely edged round the board with one or two lines of gold, which is done by rubbing the edge of the roll with an oily cloth; the gold being cut into slips the width required, the roll is passed over them, and the oil causes the gold to adhere to it. The roll is then pressed gently and steadily upon the board, and as it moves along the impression is left on the book. For extra work, the pattern being marked out on the side, the gold is laid on in the same manner as for the back, and the tools are worked, and then the loose gold wiped off; the polishing iron is now passed over the book, which is then pressed between pieces of polished horn, tin, or papier-machée boards, to increase and fix the gloss. The edges of the leaves are now burnished with an agate, the book being firmly fixed in the press for the purpose; after this the insides and edges of the boards are polished, and the book is finished.

Blind tooling is done in the same manner, without the use of the gold.

The above is a general outline of the art of book-binding; and, it is presumed, will convey a tolerable idea of the process to such as desire information upon the subject. It is, however, one of those trades that require long and attentive practice to make a skilful workman. Within the memory of the writer of this article, the whole trade has undergone a complete change. About thirty years ago, the general run of binding was what is termed *calf-gilt*, and this was all done one pattern; the sides a running marble, of copperas, and salt of tartar, and the backs white, with colored lettering pieces; the backs were, at that time, quite flat, bands being only used for school-books; and as hollow backs

were almost unknown, the books were made exceedingly stiff, to prevent the leather from wrinkling when they were opened. The marble before mentioned is entirely exploded, except for sheep-bindings. At its invention the greatest caution was used to keep it a secret, and books were obliged to be sent to the inventor to be marbled, at a high price; the process is, however, very simple; but as it is never used in good work, no notice of it is taken in the preceding account; but it may be briefly stated, that after the book is washed and glaired, it is spread open, between two rods, or wands, laying in a slanting position; a wisp, or brush, is dipped in water, which is thrown on coarsely; as it runs

down the book, strong copperas water is thrown on with a brush, beat against an iron bar, an immediately after a small quantity of solution of salt of tartar; as soon as the colors are set, which they do immediately, the book is washed, and it certainly presents a very curious appearance. The general introduction, or rather revival, of bands, has taken place within the last few years; formerly they were considered essential to strength, but are now merely ornamental, being fixed to the cover, which, in order to make the book open more freely, is generally loose from the back of the book, and termed a hollow back.

BOOK-KEEPING.

BOOK-KEEPING is a mercantile term used to denote the method of keeping commercial accounts of all kinds, in such a manner, that a man may thereby know at any time the true state of his affairs with clearness and expedition.

The origin of this art must be considered as coeval with that of commerce, and as Italy, or rather Venice, was the parent of European commerce, the first production on book-keeping, made its appearance at the same place; hence all plans for books that were formed after this model, were said to be arranged according to the Italian, or, as it is commonly called, the Double Entry system; by which is meant, that for every sum carried to the Dr. of any person, or thing, there must be a corresponding sum placed to the Cr. of some other person or thing.

The method of book-keeping which answers these purposes most clearly and concisely is the best. The Italian method, by Double Entry, is generally preferred; at least, it is founded upon the most universal principles, and is the most convenient in extensive and complicated business: and the accountant who understands it, will find little difficulty in following, or even in inventing, other methods that are better accommodated to any particular purpose.

But, as the method by Single Entry has also its advantages, being more convenient for tradesmen, and all others who do not carry on business very extensively, we shall subjoin directions respecting that method; and conclude with an account of the Subsidiary Books, most of which are equally necessary in both methods.

PART I.

OF THE ITALIAN METHOD BY DOUBLE ENTRY.

The Italian Method requires three principal books, viz. the Waste Book, Journal, and Ledger.

SECT. I.—OF THE WASTE BOOK.

The waste book, or day book, contains an exact register of all occurrences in business in the same order as they take place. It begins with an inventory of every thing belonging to the owner, a list of the debts due to him, and of the debts he owes to others: It is carried on with a full relation of all the money he receives or

pays; of all the goods he buys or sells; and of every other occurrence in his business. Each article should be entered as soon as the transaction takes place, and should be clearly expressed in the plainest language. It should require no supply from the accountant's memory, but should be fully intelligible to any person, however unacquainted with the business: at the same time, it should be written with all convenient brevity; and, therefore, sometimes refers to invoices and other accounts, for particulars. The accountant's first care should be to have nothing defective or ambiguous; his second, to have nothing superfluous.

The date is written in text on the top of each page. The articles are separated from each other by a line; and the transactions of one day are separated from those of another by a double line, in the middle of which there is a blank space for inserting the day of the month. This book must be kept with the greater care and accuracy, as it contains the materials from which the other books are composed. Besides, it is the book whose authority is trusted to, and which must be exhibited to judges, or arbiters, when an account is disputed. As the journal is filled up from the waste book, and ought to be a fair copy of it; the authority of the latter is esteemed more authentic, unless there be an obvious mistake through hurry; and either of these books is depended on rather than the ledger, which, from its form, is more liable to error, and may be more easily vitiated by a fraudulent design.

As the waste-book contains the whole substance of the business, it may be applied so as to afford any information that can be wanted; but the labor of consulting it would be very great, and much exposed to the risk of omissions. To prevent this inconvenience, the ledger is used, in which the articles are arranged in a methodical order. We shall consider it next; because the journal, though it comes before it in the order of writing, cannot be well understood, till the nature of the ledger be explained.

SECT. II.—OF THE LEDGER.

In the ledger, articles of the same kind are collected together; and, for that purpose, it is divided into many accounts, under which the different branches of business are arranged.

Each account is introduced by a proper title, to explain the nature of the articles it contains; and articles of opposite kinds, which belong to the same account, are placed on the opposite pages of the same folio; for instance, money received on the one side, and money paid on the other; or goods bought on the one side, and goods sold on the other. The left hand page is called the Debtor side of the account, and the right-hand page the Creditor side. The difference between the sums of the Dr. and Cr. side is called the Balance.

Accounts in the ledger are of three kinds.

I. Personal accounts. It is necessary to open an account for every person or company with whom there are any dealings on credit. At opening the books, if they be indebted to the owner, the debt is entered on the Dr.; but, if he be indebted to them, it is entered on the Cr. During the course of the business, goods sold on trust, money paid, and every thing for which they are accountable to him, is entered on the Dr.; but goods bought on trust, money received, and every thing for which he is accountable to them, is entered on the Cr. The balance shows how much they owe him, when the Dr. side is greater; and how much he owes them, when the Cr. side is greater.

II. Real Accounts. By this we understand accounts of property of whatever kind, such as ready money, goods, houses, lands, ships, shares in public companies and the like. The account of ready money is entitled Cash; but those who keep an account with a Banker, generally debit the Firm with monies paid, and credit it with monies drawn out. On the Dr. side, the money on hand at opening the books is entered, and afterwards every article of money received. On the Cr. side, there is entered every article of money paid out; and the balance shows how much ought to be on hand. The sum of the Dr. side of this account is or ought to be always greater than that of the Cr. side.

Accounts of goods are generally ruled with inner columns for entering the quantities. When the books are opened, the goods on hand are entered on the Dr. side of the respective accounts; the quantities being placed in the inner, and the values in the outer column. Goods bought are entered in the same manner, and goods sold are entered on the Cr. side; the quantities and values being placed in the proper columns. Charges laid out on goods are entered on the Dr. side; and, when an incidental advantage arises from them, such as the public bounty, it is entered on the Cr. If the sums of the inner columns on the opposite sides be equal, it shows that the goods are all sold, and then the balance of the money column shows the gain or loss. If the Cr. side be greater, it is gain; if the Dr. side be greater, it is loss. If the quantity in the inner column be greater on the Dr. side, it shows that part of the goods are on hand; and their value must be added to the sum of the Cr. side, in order to determine the gain or loss.

Accounts of ships contain on the Dr. the value of the ship when the books are opened, and all expenses laid out thereon; on the Cr. all freights

received. In like manner, accounts of houses or lands have the value of the subject, and all repairs, or other charges, entered on the Dr. and all rents or other profits received on the Cr. If the subject be sold in whole or in part, the sale is entered on the Cr. And the balance, after valuing the subject (if any) on hand, shows the gain or loss.

III. Accounts of Stock, Profit and Loss, and their subsidiary accounts, which are sometimes called fictitious accounts.

The Stock account contains on the Dr. the amount of the debts which the owner owes when the books are opened; and on the Cr. the amount of ready money, goods, debts, and property of every kind belonging to him: therefore the balance shows what his nett stock is; or, in case of bankruptcy, how much his debts exceed his effects. There is nothing further entered on this account till the books are balanced; and then, if the business has yielded profit, the nett gain is entered on the Cr.; if it has been unsuccessful, the nett loss is entered on the Dr.; after which the balance shows the nett stock at the time the books are closed.

The Profit and Loss account contains every article of gain on the Cr. and every article of loss on the Dr. The balance shows the nett gain or loss, and is transferred to the proper side of the stock account, as mentioned above. This account is partly composed of articles that occur while the accounts are running. For example, legacies received are entered on the Cr.; goods lost or destroyed on the Dr. The rest of the articles are those of gain and loss, arising from the real accounts, which are collected, when the books are balanced.

It has been found convenient to open several Subsidiary Accounts, in order to shorten and methodise that of profit and loss. These contain certain articles of gain or loss, which may be reduced under distinct heads. They are in effect so many parts of the profit and loss account, and their balances are entered on the proper side of that account when the books are closed. Thus,

The *Interest account* contains on the Dr. sums paid or incurred for interest; and on the Cr. sums received, or become due for it.

The *Commission account* contains on the Cr. articles of gain received or owing for trouble in transacting business for others. There are seldom any entries on the Dr.

The *Charges of merchandize* contains on the Dr. all charges paid or incurred on the business, which do not belong to any particular account, as shop-rent, public burdens for trade, clerk's wages, postage, and the like. If any of these should afterwards be charged to some other account, the sum so charged is entered on the Cr.

The *Account of proper expenses* contains on the Dr. money or any thing else, withdrawn from the trade for our private use. There are seldom any entries on the Cr. The amount of this account, as well as the former, is not properly loss; but as it has the same effect in diminishing the stock, it is placed in the same manner to the Dr. of Profit and Loss, or in case of a partnership, to the private account of the party.

Loss by bad debts contains on the Dr. such debts as we reckon desperate; and on the Cr. any of these which may happen to be unexpectedly recovered.

Account of abatements contains on the Dr. discounts allowed by us on payments received; on the Cr. discounts allowed to us on payments made. It is particularly useful in retail business, where discounts are often given, to show how much they amount to.

Insurance account contains on the Cr. premiums received for making insurances; and, on the Dr. losses sustained on the same; there may be several accounts of this kind. Insurances against sea-hazard and fire are the most common. The balance shows the gain or loss which arises from being concerned in insurance.

When goods are received, the transaction is entered on the Dr. of the account of goods. If they are bought for ready money, it is also entered on the Cr. of cash; if on trust, it is entered on the Cr. of the seller; if they be exchanged for other goods, it is entered on the Cr. of the goods delivered; if they be obtained by some profitable business, without any return, it is entered on the Cr. of profit and loss.

When goods are delivered, the transaction is entered on the Cr. of the account of goods; and, if they be sold for ready money, it is also entered on the Dr. of cash; if on credit, it is entered on the Dr. of the purchaser; if exchanged for other goods, it is entered on the Dr. of the goods received; and if they be given gratis, or destroyed, it is entered on the Dr. of profit and loss.

Thus, every article in any account, whether personal or real, or belonging to profit and loss, corresponds to some other article on the opposite of a different account. The same sum is entered on the Dr. of one account and on the Cr. of the other; and it follows from this, that, if all the accounts in the ledger be added, the amount of the sums of the Dr. will be equal to those of the Cr.

SECT. III.—OF THE JOURNAL.

The journal is a fair record of all the transactions compiled from the waste-book, in the same order as they stand there.

When we are to enter any article in the journal, we must consider which account in the ledger it will require to be placed to, both on the Dr. and Cr. and write the former account Dr. to the latter account; then we annex an explanation of the article, and place the sum in the money column.

Example.—(Waste-book). Sold for ready money, 30 yards linen, at 3s. £4 10 —
(Journal). Cash Dr. to Linen Sold 30 yards, at 3s. £4 10 —

Or, if the money be paid into the hands of the banker, the firm will be Dr. and the linen Cr. without carrying it through the cash account; the principal use of which is, that, if a number of small sums are taken in the course of the day, cash may be debited, and, when the amount is paid in at the bankers, he is charged therewith in one line and cash credited in the same way. Here we consider, that the article must be

entered on the Dr. of cash because money is received; and on the Cr. of linen, because linen is delivered: therefore we write cash Dr. to linen, to which we annex the nature of the transaction. The article thus entered is called a journal post; cash is called the Dr.; linen, the Cr.; the words 'cash Dr. to linen,' the entry; and the words that follow, the narration.

Where a banking account is kept, the payments made by cash or acceptances ought to be kept in a small book, and may be journalised either daily, weekly, or monthly, without passing through the waste-book; the nature of the transaction being stated on the counterpart of the check, or, if it is an acceptance, then bills payable will be debited and the banker's account credited.

The purpose of expressing the article in this form, is to point out the accounts in the ledger, to which it will require to be posted, and thereby enable the accountant to write the ledger with more ease than he could do, if it were filled up immediately from the waste-book. The learner will be able, from this example, to enter any simple article in the journal, providing he knows the accounts to which it should be posted on the Dr. and Cr. of the ledger.

GENERAL RULES FOR JOURNAL ENTRIES.

I. Every thing received, or person accountable to us, is Dr.

II. Every thing delivered, or person to whom we are accountable, is Cr.

As the whole art of writing the journal depends on a proper choice of the Drs. and Crs. we shall give some particular rules for the most common cases, and a few examples for the illustration and practice of each.

Rule I. A thing received is Dr. to the person from whom it is received, when nothing is delivered in return.

Rule II. The person to whom any thing is delivered, is Dr. to the thing delivered, when nothing is received in return.

Rule III. A thing received is Dr. to the thing given for it.

Rule IV. Goods and other real accounts are Dr. for all charges laid out on them. If money be laid out, they are Dr. to cash; if any thing else be delivered, they are Dr. to the thing delivered; if the charge be taken in trust, they are Dr. to the person to whom it is due.

Rule V. When rents of houses or lands, freight of ships, bounties on goods, or any other profits from real accounts are received, cash is Dr. to the account from which the profit arises: if any thing besides money be received, the article received is Dr.: if they remain unpaid, the person who owes them is Dr.

Rule VI. When an article of loss occurs, profit and loss, or some subsidiary account, is Dr. If the loss be paid in ready money, it is Dr. to cash; if it is paid in any thing else, it is Dr. to the thing delivered. If it remain unpaid, it is Dr. to the person to whom it is owing.

Rule VII. When an article of gain occurs, that is not immediately connected with any real account, cash, the article received, or the person

accountable for it, is Dr. to profit and loss, or to some subsidiary account.

Rule VIII. When one person pays money, or delivers any thing else to another on our account, the person who receives it is Dr. to the person who pays it. Thus,
(Waste-book.) John Fairney has
paid the bank of Scotland, on my
account £100 — —

These rules will make the learner acquainted with the form of the journal, and extend to the greatest part of the simple transactions that occur in domestic trade. The technical sense of the words Dr. and Cr. has a kind of analogy to their meaning in common language, but is not precisely the same. Thus, in Ex. Rule VIII. the journal entry is, Bank of Scotland Dr. to John Fairney; by which we are not to understand that the bank is indebted to John Fairney; for a debt between them has no connexion with our business, and therefore ought not to be entered in our books: the meaning of the entry is, that the bank becomes indebted to us by the transactions narrated; and that we become indebted to John Fairney by the same.

The journal should be written by one person, in a fair hand and at leisure hours. The articles are separated, and the titles and dates marked in the same manner as in the waste-book. The entries are written in half text, for ornament and distinction. In the inventory, the designation (or the business, station, and place of residence,) of every person is mentioned; and the same is done the first time that any name occurs in journal entry. At other times, it is sufficient to enter the name without the designation, unless we have dealings with two persons of the same name; in which case, it is always necessary to annex the designation, in order to distinguish them. The narration should be complete, without referring to the waste-book; and so clear, that every person, acquainted with the style of the journal, may understand it with ease. When the post is written, we enter the folio of the journal against the article, on the margin of the waste-book, to show how far the writing of the journal is advanced.

OF THE SUBSIDIARY BOOKS.

Though all merchants accounts may be kept by the waste-book, journal, and ledger, alone; yet men of great business find it convenient, either for abridging these, or for other ends, to use some others, generally called subsidiary or subservient books; the most common of which are the following: viz.

I. The CASH-BOOK is kept in a folio form, like the ledger, and serves to abridge the cash account there. On the left-hand page, or Dr. side, cash is charged Dr. for all the sums received; and on the right-hand page, cash is made Cr. for all the sums paid. Once a-week, or, which is more ordinary, once a-month, this book is posted to the ledger; or, first to the journal, by two entries, viz. cash Dr. to sundries, for all the receipts, and sundries Drs. to cash, for all the payments. By this means the cash account in the ledger will be so far contracted as to consist of twelve lines, viz. one for each month in the year.

II. Book of CHARGES of MERCHANDISE, or PETTY CASH BOOK. This book is only pagged, and designed to abbreviate the cash book. It contains particular charges on goods and voyages; such as carriage, custom, freight, crage, wharfage, &c. also other expenses that affect trade in general; such as, warehouse rent, shop rent, accountant's wages, postage of letters, and the like. At the end of each month the money columns of this book are added up, and the sum carried to the credit side of the cash book.

III. The Book of HOUSE EXPENSES is also pagged, and designed to ease the cash book. It contains all disbursements for family provisions, servants' wages, house rent, apparel, utensils, &c. The money columns of this book are also added up at the end of each month, and the sum transferred to the credit side of the cash book.

IV. The INVOICE BOOK, used chiefly by factors, is pagged, and contains copies of the invoices of goods sent to sea, or of goods received from abroad.

V. The SALES' BOOK is also chiefly used by factors; and into it is posted, from the waste-book, the particular sales of every consigned cargo; by which the several articles of a sale, that lie scattered in the waste-book, are brought together, and represented under one view, and that in a manner more full and minute than in the ledger. This book exhibits the sales of every consignment separately and by themselves: to which are subjoined the respective charges, such as freight, custom, the factor's commission, as also abatements allowed to buyers, &c. whose sum subtracted from the gross amount of sales gives the neat proceeds. From this book, when a cargo is sold off, an account of sales is drawn out, in order to be transmitted to the employer.

VI. The BILL BOOK is intended to furnish a merchant with a ready way of knowing the time when bills become payable to or by him.

VII. LETTER BOOK. It is very imprudent in any person to send away a letter of business, without keeping a copy of it; and therefore, to prevent the bad consequences of such a careless practice, merchants are provided with a large book in folio, into which is copied *verbatim* every letter of business before it be sent off. So that this book, together with the letters received (which must also be carefully kept in files or boxes), makes a complete history of all the dealings that pass betwixt a merchant and his correspondents; which may be very useful on many occasions.

VIII. POCKET BOOK. This is a small book, of a portable size, which a merchant carries in his pocket when business calls him abroad to a tavern, a fair, the country, or other places. In this he sets down the bargains he makes, the expenses he is at, the debts he pays or sums he receives, with every other part of business he transacts while abroad; as also any occurrence or piece of news he thinks worth while to record. And when he comes home, he transfers the things contained in this book, each to their proper places in the waste-book, or books subsidiary.

The above are the subsidiary books most in

use: but a merchant may keep some, and neglect others, or invent more as the nature of his business requires.

SECT. IV.—OF POSTING THE LEDGER.

The first thing to be done in the ledger, is to allot a proper space for each account. The accounts may be either opened in the same order that they occur in the journal; or accounts of the same kind may be placed together; the personal on one part of the ledger, and the real accounts in another. The accounts of Stock, and Profit and Loss, are generally placed at the beginning.

The number of the folio is marked in text at each corner of the top line; and the titles of the accounts are written in text through both folios, if necessary. The word Dr. is prefixed to the title on the left-hand page; and contra Cr. annexed to it on the right-hand page.

An index must be provided, for pointing out the folios where the accounts are opened. The titles of the accounts are entered alphabetically in the index, and the number of the folio annexed. Personal accounts are entered by the first letter of the surname; companies, by the first letter of the surname of the first letter of the first partner; and all other accounts, by the first letter of the first word. The most convenient kind of index is a long book, of twenty-four leaves.

In posting the ledger, first look for the Dr. of the journal post in the index, under the proper letter, which directs to the folio of the ledger where the account is, if it be already opened: if not, you must allot a space for it, write the title, and enter it in the index. Then enter the article on the left-hand page of the account under the title of the former article, by writing the date on the margin, and the name of the creditor on the line, with the word *to* prefixed, and a short narration of the transaction annexed, and inserting the sum in the money column, and the quantity, if it be an account of goods, in the inner column. Then turn to the account of the Cr. of the journal-post, and enter the article in the right-hand page, prefixing the word *by* to the name of the Dr.

This being done, turn to the journal, and mark on the margin the number of the folios to which the article is posted. The figures which point out the reference to the Dr. and Cr. folios should be separated by a line; for example, if the Dr. entry be on the first folio, and the Cr. entry on the eighth, the reference is marked $\frac{1}{8}$. These figures show how far the posting is advanced, and are useful in comparing the books. The figures for dates or references, should be written in a lighter hand, than the figures in the columns for money or quantity. Some prefer entering the folio of the ledger against each account at once, and to make a \checkmark or . before it, when posted into the ledger.

There is often a reference column ruled in the ledger, for pointing out the other entry, corresponding to any article. In this column, the folio of the Cr. entry is marked against the Dr. article, and the folio of the Dr. entry against the Cr. article.

An article in the ledger is generally compre-

hended in one line. The narration should be as full as can be contained in that bounds. If it cannot be narrated completely, the journal is referred to for further particulars, by writing *per Journal* (or p. J.), either after an incomplete narration, or immediately after Dr. or Cr. when there is no room for a proper narration. In complex posts, there can seldom be any narration annexed to the single Dr. or the single Cr. The entry is generally *To sundries per J. or, By sundries per J.* If the sense of the whole article can be narrated, it should be done; but it is improper to narrate the first or any other part of the article, and omit the others:—

When the space allotted for an account in the ledger is filled up, the account must be transported to another folio. For this purpose add the columns on both sides, and write against the sum, *Transferred to folio* , inserting the number of the folio where the new account is opened, in the reference column, or on the line, if no reference-column be used.

The books should be written up as frequently as can be done conveniently; so that the journal may keep pace nearly with the waste-book, and the ledger with the journal. Each book should be carefully revised, and compared with the book from which it is posted. In comparing the ledger, observe the following directions.

Begin with the first journal post, and turn to the folio of the ledger where the Dr. is entered, which you are directed to by the marginal reference, and compare the date, entry, and sum. If they correspond, it is well; if not, the ledger must be altered till it correspond with the journal. Then place a dot before the reference figure in the journal, and mark, thus Δ , before the sum in the ledger. Proceed in the same manner to compare the Cr. of the journal post, and all the following posts in their order. The dots in the journal show how far the comparison is advanced, and the marks in the ledger show what articles are compared. The sums of accounts transported should be left blank till the books be compared; as an error in any article will occasion an alteration in the sum.

In correcting errors in the ledger, observe the following rules: I. If an article be omitted, do not attempt to interline it at the place where it should have been; but insert it under the last article, when you discover the omission, and mark a cross \times against it on the margin, and another at the place where it should have been. II. If you discover a mistake immediately when committed, correct it without cancelling any thing, as in this example: To cash, say, To James Spence received to account. III. If you have written a line entirely wrong, or in a wrong place, write the word *Error* at the end, prefix a cross, and omit or cancel the sum. IV. Cancel errors, by drawing a line lightly through them, so that the old writing may still be legible; by which it will be evident, that the book has not been vitiated for a fraudulent purpose. The same method should be followed in correcting errors in the journal.

When the comparison of the books is finished, glance over the ledger, to observe if the mark of comparison be affixed to every article.

Because the whole sum of the Dr. side of the ledger should be equal to the whole sum of the Cr., it is proper to try if they correspond. For this purpose, you may add the Dr. of every account, except such as are already balanced, placing the sums in an inner column, and extending them at the end of one or more folios, as you find most convenient, to the outer column : and, as you go along, add the Cr. in the same manner. If the sum total of both sides be equal, it gives a presumption that the books are right ; if they differ there is certainly some mistake. This is called the Trial Balance. The labor bestowed upon it is not lost, as the sums may be reserved for assisting to collect the balances.

SECT. V.—OF BALANCING THE BOOKS.

Before we explain the method of balancing the books, it will be proper to direct the learner how to balance particular accounts. When we settle accounts with any person, and ascertain how much is owing at either hand, it is necessary to balance his account in the ledger, and open a new one, beginning with the sum that was due according to the settlement : and when we clear accounts again, we must go back to that article, and no farther.

If any article be charged on either side, at the time of settling, they must be immediately entered on the waste book ; from which they will pass in course to the journal and ledger ; and a remark must be entered in the waste-book, that the account was settled, and the balance transferred to the proper side of the new account. This remark is transcribed in the journal ; and the ledger account is balanced, when it occurs, in the course of posting.

If the balance be due to you, write on the Cr. By balance due to him to Dr. new account, and insert the sum due to you ; after which the amount of both sides will be equal, or vice versa. Add the account, placing the sums opposite to each other ; and, if the sides be unequal, draw a diagonal line through the vacant space of the shorter side, and close the old account by drawing lines under the sums. Then open the new account immediately under the old one, or in a new folio, if the old one be full, by writing on the Dr., To balance of former account due by him, and vice versa.

Merchants generally balance their books once a year. The design of this operation is, to collect the various branches of their business, diffused through the books, into a concise abstract : to ascertain the gain or loss since the last balance : and exhibit the present state of their affairs. If the business be of such a kind, that most of the branches naturally come to an issue at a certain time of year, that time is the proper one for making the balance. Otherwise the end of the year, or the least busy time, may be chosen.

PART II.

OF BOOK-KEEPING BY SINGLE ENTRY.

Having explained the method of book-keeping by Double Entry, we shall add a few directions for keeping books by Single Entry ; because this method, although less perfect, is yet the simplest

and shortest. It is generally used by shopkeepers, and requires two principal books, a day book and ledger.

The DAY BOOK begins with a list of the debts due to the owner, and of the debts due by him to others. Then every transaction by which new debts are contracted, or former debts discharged, is entered as it occurs with the quantities and prices of goods bought or sold, or other circumstances necessary for explaining the transaction.

When goods are sold on credit we write A. B. [the purchaser] Dr. and then mention the article or articles with the rates and amount. When we pay money we write C. D. [the receiver] Dr. to cash ; when we buy goods, E. F. [the seller] Cr. for the articles purchased ; when we receive money, G. H. [the payer] Cr. by cash.

If debts be discharged or contracted by any other means, the person who becomes indebted to us, or to whom we pay a debt we formerly owed, is entered Dr. and the person to whom we become indebted, or who pays a debt he formerly owed, is entered Cr. and the nature of the transaction explained.

The LEDGER contains an account for every person with whom there are dealings on credit, where the articles for which he is accountable to us, and those for which we are accountable to him, are placed in opposite pages of the same folio ; the Dr. articles on the left-hand pages, and the Cr. articles on the right-hand pages.

To POST THE LEDGER, allot a space for every person or company whose name occurs in the list of debts at the beginning of the day book ; write the title and enter the debts on the proper side, referring to the page of the former ledger, where the account was ; and enter the name in an index prepared as directed PART I ; then proceed to post the articles from the day-book in their order, in the accounts of the persons they belong to, allotting a space for the account and writing the title, if it was not opened before. The date of the article is written on the margin ; and the transaction is entered on the Dr. side, when the person is marked Dr. in the day-book, and on the Cr. side, when he is marked Cr. in the day-book.

When a single article is bought or sold, we mention it, with the quantity and rate, in the ledger ; but when several articles are bought or sold at the same time, it is more usual to enter only the sum of the whole, writing To sundries, or By sundries, and referring to the day-book for particulars. The number of the folio, in which each article is posted, is marked on the margin of the day-book. If the space assigned for an account be filled up, it must be transferred to another folio.

Instead of entering the Dr. and Cr. articles on opposite pages, some enter them all on the same page, and rule two sets of money columns, one for extending the sums of the Dr. articles, and another for the sums of the Cr. articles ; but this plan is not recommended.

Those who keep their books upon this plan, ought also to have a CASH BOOK, and an INVOICE BOOK ; which will make it unnecessary to enter the particulars of such articles in the day-book.

Journal.	Fol.	WASTE BOOK.	£	s.	d.
		London, 1st January, 1826.			
	1	Thomas and John Wilson commenced business with a capital of £20,000 each	40,000	0	0
	1	Purchased £30,000 Exchequer Bills			
		At £5 premium £31,500			
		Interest 130			
		Brokerage, 1s. per £100 15			
		_____	31,645	0	0
	1	Opened a banking account with Messrs. Jones and Co. and paid in	1,355	0	0
		_____	40,000	0	0
	1	Purchased of William Lennox, 10 pipes Port wine in bond, at £40 10 butts Sherry — 45	400 450	0 0	0 0
		_____	850	0	0
	1	Purchased of Garry and Co. 500 pieces linen, 30 yards each, is 15000 yds. at 2s. £1500 0 Six months discount 37 10s.	1,462	10	0
	1	Smith and Co. of Oporto advise, per letter, 2d Jan. that they have shipped for our account, 20 pipes Port wine, per Europe. Invoice amount And advise their draft at 3 months date.	610	0	0
	2	Purchased of Mitchell and Co. 1000 cask tallow, nett 7000 cwt. 2qrs. at 32s, £11200 16 0 Discount for cash 2½ per cent. 280 — 6 Payable in 14 days, say 7th Feb.	10,920	15	6
	4	London, 1st February, 1826. Purchased a ship at Lloyd's, and received £50 for the bargain Paid same to Jones & Co., per Bankers' Book.	50	0	0
	4	Shipped 100 casks tallow to Liverpool, per Hero, 600 cwt. at 40.	1,200	0	0
	4	Messrs. Hood & Co. paid Moss & Co. to our credit with Jones & Co. [See Banker's Book.	1,200	0	0
	4	Sold James Hunter, 10 pipes sherry, at £55. Terms, Cash. [See Banker's Book.	550	0	0
	4	Purchased the brig Hero, of Thomas Preston, for cash, at [See Banker's Book.	1000	0	0
	4	Credit Brig Hero, For freight of 20 pipes port, at 50s	50	0	0
	4	Paid duty on 20 pipes port, at £45 10s. [See Banker's Book.	910	0	0
	4	Received of W. Lennox, Freight of 100 pipes of wine, per Hero, and paid Jones & Co. [See Banker's Book.	250	0	0

WASTE BOOK.

Journal.	Fol.		£	s.	d.
		London, February 1st, 1826.			
	4	Subscribed to the Fund for the Distressed Manufacturers. [See Banker's Book.	50	0	0
		6			
	4	Sold £10,000 Exchequer Bills, At £5 10s. per cent. per ann. £10,550 0 0 Interest 15 10 0			
		10,565 10 0			
		Deduct brokerage 1s. per. 5 0 0			
		Paid Jones and Co. the above. [See Banker's Book.	10,560	10	0
		March 6th, 1826.			
		Sold the following goods, for cash			
	5	To John Williams, 20 pipes port wine, duty paid, at £100 per pipe	2000	0	0
	5	To Warren and Co. 500 pieces linen, 15,000 yds. at 2s.	1,500	0	0
		Received, 30th March, per Banker's Book.	3,500	0	0
		15			
		Sold the following goods,			
	5	To S. Wilson, 500 casks tallow, 3500 cwt. at 40s.	7,000	0	0
		Payment by his acceptance at 6 months.			
	5	To E. Jones, 400 casks tallow, 2500 cwt. 2 qrs. at 39s.	4,875	19	6
		For cash [See Banker's Book.			
		"			
	5	Sold the brig Hero, To T. King, for cash	900	0	0
		[See Banker's Book.			

N. B. Such of the foregoing entries as refer to the Banker's Book, may be omitted in the Waste Book altogether, or not, according to the wish of the party, as they come regularly into the Journal through the Banker's Book.

CASH, OR BANKER'S BOOK.

Dr. JONES & CO. BANKERS.					PER CONTRA. Cr.				
		folio.	£.	s. d.		Jour.	£.	s. d.	
1826.					1826.				
Jan. 1.	To sundry, per journal	1	8,355	0 0	Jan. 10	Paid Wm. Lennox	3	850	0 0
24	To Exchequer Bills, proceeds of £10,000.	3	10,560	10 0	30	Paid Garry & Co.		1,462	10 0
Feb. 10.	To wine acct. for 10 b. Sherry	4	550	0 0		Paid Mitchell & Co.		10,000	0 0
	To brig Hero, for freight		250	0 0	Feb. 10	Paid for brig Hero		1,000	0 0
	Do. do.					Paid duty on 20 p. Port		910	0 0
	To profit and loss, p. journal		50	0 0		Paid Distressed Manufacturers		10	10 0
	To tallow acct. pd. by Moss & Co.		1,200	0 0		Paid Smith & Co.		610	0 0
Mar. 30.	To wine acct. received for 20 p. Port	5	2,000	0 0	Apr. 30	Paid Mitchell & Co.	4	920	15 7
	To do. for 10 p. Port		500	0 0		Paid profit and loss, rent, taxes, &c.		170	0 0
	To linen account, 500 ps.		1,500	0 0		Paid clerks' salaries and sundry charges	5	450	0 0
	To tallow acct. 400 cks.		4,875	0 0		Paid T. Wilson drawn out		21,579	1 11
	To brig Hero, sold her for		900	19 6		Paid J. Wilson		21,579	2 0
	To tallow acct. paid in S. Wilson's accept. due Sept. 18.		7,000	0 0					
April 30.	To Exchr. bills, proceeds per journal	6	21,650	10 0					
			59,441	19 6					

5	Jones & Co. Dr.				3	Profit & Loss, Dr. to Sundry.			
4	To Exchequer Bills.				1	To Thos. Wilson, his share	1,579	1	11
	Proceeds of £20,000 . . .	21,650	10	0	2	— John Wilson, — —	1,579	2	0
4	Exchequer Bills, Dr.						3,148	3	11
3	To Profit and Loss.								
	For Int. &c. on that Acct.	566	0	0					
3	Profit and Loss, Dr.				5	Sundry. Dr. Jones & Co.			
5	To Jones & Co.				1	T. Wilson, drawn out . . .	21,579	1	11
	Rent, Taxes, &c.	70	0	0	2	J. Wilson, — — — . . .	21,579	2	0
	Clerk's salaries & other exps.	450	0	0			43,158	3	11
		520	0	0					

LEDGER.

Dr.					THOMAS WILSON.					Cr.				
1826.			£.	s. d.	1826.		£.	s. d.						
Apr. 30	To Jones and Co. drawn out	6	21,579	1 11	Jan. 1	By Sundry, per Journal . . .	1	20,000	0 0					
					Apr. 30	By Profit and Loss his share	6	1,579	1 11					
								21,579	1 11					
Dr.					JOHN WILSON.					Cr.				
1826.			£.	s. d.	1826.		£.	s. d.						
Apr. 30	To Jones and Co. drawn out	6	21,579	2 0	Jan. 1	By Sundry, per Journal . . .	1	20,000	0 0					
					Apr. 30	By Profit and Loss his share	6	1,579	2 0					
								21,579	2 0					
Dr.					PROFIT AND LOSS.					Cr.				
1826.			£.	s. d.	1826.		£.	s. d.						
Feb. 10	To Jones and Co.	4	10	10 0	Feb. 10	By Jones and Co.	4	50	0 0					
Apr. 30	Ditto	6	520	0 0	Apr. 30	By Sundry	6	3,072	13 11					
	Ditto	6	3,153	3 11		By Exchr. Bills		566	0 0					
			3,688	13 11				3,688	13 11					
Dr.					EXCHEQUER BILLS.					Cr.				
1826.			£.	s. d.	1826.		£.	s. d.						
Jan. 1	To Sundry, purch. £30,000	1	31,645	0 0	Jan. 24	By Jones and Co. per Journal	3	10,560	10 0					
Apr. 30	To Profit and Loss	6	566	0 0	Apr. 30	Ditto	6	21,650	10 0					
			32,211	0 0				32,211	0 0					
Dr.					JONES AND CO.					Cr.				
1826.			£.	s. d.	1826.		£.	s. d.						
Jan. 1	To Sundry	1	8,355	0 0	Jan. 30	By Sundry	3	12,312	10 0					
24	Ditto	3	10,560	10 0	Feb. 10	Ditto	4	1,920	10 0					
Feb. 10	Ditto	4	2,100	0 0	Mar. 30	Ditto	5	1,530	15 7					
Mar. 30	Ditto	5	16,775	19 6	Apr. 30	By Profit and Loss	6	520	0 0					
Apr. 30	Ditto	6	21,650	10 0		By Sundry		43,158	3 11					
			59,441	19 6				59,441	19 6					
Dr.					WILLIAM LENNOX.					Cr.				
1826.			£.	s. d.	1826.		£.	s. d.						
Jan. 30	To Jones and Co. in full.	4	850	0 0	Jan. 30	By Sundry	1	850	0 0					

LEDGER.

Dr.		WINE ACCOUNT.										Cr.	
1826.			£	s.	d.	1826.			£	s.	d.		
Jan. 10	To W. Lennox, 10 pipes Port	1	400	0	0	Feb. 10	By Jones & Co. 10 butts Sherry	4	550	0	0		
	Ditto . 10 butts Sherry		450	0	0	Mar. 30	By ditto . 20 pipes Port	5	2000	0	0		
23	To Smith & Co. 20 pipes Port	2	610	0	0		By ditto . 10 pipes Port		500	0	0		
Feb. 10	To Brig Hero, freight . .	4	50	0	0								
	To Jones & Co. duty on 20 pipes		910	0	0								
Apr. 30	To Profit and Loss, gained	6	630	0	0								
			3,050	0	0				3,050	0	0		

Dr.		LINEN ACCOUNT.										Cr.	
1826.			£	s.	d.	1826.			£	s.	d.		
Jan. 20	To Garry and Co. 500 ps.	1	1,462	10	0	Mar. 30	By Jones and Co. 500 ps.	5	1,500	0	0		
Apr. 30	To Profit and Loss, gained	6	37	10	0								
			1,500	0	0								

Dr.		GARRY AND CO.										Cr.	
1826.			£	s.	d.	1826.			£	s.	d.		
Jan. 30	To Jones and Co. in full	3	1,462	10	0	Jan. 30	By Linen Account . . .	1	1,462	10	0		

Dr.		SMITH AND CO.										Cr.	
1826.			£	s.	d.	1826.			£	s.	d.		
Mar. 30	To Jones and Co. . . .	5	610	0	0	Jan. 23	By Wine Account . . .	2	610	0	0		

Dr.		TALLOW ACCOUNT.										Cr.	
1826.			£	s.	d.	1826.			£	s.	d.		
Jan. 24	To Mitchell and Co. 1000 casks 7000 cwt. . . .	2	10,920	15	7	Feb. 10	By Jones and Co. 100 casks	4	1,200	0	0		
Apr. 30	To Profit and Loss, gained	6	2,155	3	11	Mar. 30	By ditto . . 400	5	4,875	19	6		
							By ditto . . 500		7,000	0	0		
			13,075	19	6				13,075	19	6		

Dr.		MITCHELL AND CO.										Cr.	
1826.			£	s.	d.	1826.			£	s.	d.		
Jan. 30	To Jones and Co. . . .	3	10,000	0	0	Jan. 20	By Tallow Account . . .	2	10,920	15	7		
Apr. 30	To ditto	6	920	15	7								
			10,920	15	7								

Dr.		BRIG HERO.										Cr.	
1826.			£	s.	d.	1826.			£	s.	d.		
Feb. 10	To Jones and Co. . . .	4	1,000	0	0	Feb. 10	By Wine Account . . .	4	50	0	0		
Apr. 30	To Profit and Loss, gained		250	0	0		By Jones and Co. . . .		300	0	0		
						Mar. 30	By ditto	5	900	0	0		
			1,250	0	0				-1,250	0	0		

BOOKSELLERS' MARKS. An acquaintance with marks, on the title pages of books, is of some use; because many ancient books have no other designation either of printer, bookseller, or even city. The anchor is the mark of Raphelengius at Leyden; the same with a dolphin twisted round it, of the Manutii at Venice and Rome; the Arion of Oporinus at Basil; the caduceus, or Pegasus, of the Wecheliuses at Paris and Francfort; the cranes of Cramoisy; the compass of Blantin at Antwerp; the fountain of Vascosan at Paris; the sphere in a balance, of Janson and Blaew at Amsterdam; the lily of the Juntas at Venice, Florence, Lyons, and Rome; the mulberry-tree of Morel at Paris; the olive-tree of the Stephenses at Paris and Geneva, and the Elzevirs at Amsterdam and Leyden; the bird between two serpents, of the Frobeniuses at Basil; the Truth of the Comelins at Heidelberg and Paris; the Saturn of Colinaeus; and the printing-press of Badius, Ascensius, &c.

BOOK-WORM is an insect of the mite kind, which afterwards becomes a fly, bred from eggs deposited in the month of August in books, especially in the leaves nearest the covers. It is not unlike the mite or blatta found in corn. When the time of its transformation approaches, it seeks to get into the air, and eats through, till it gets to the extremity of the book. The mixture of juice of wormwood and other bitter ingredients in the paste (which is an expedient used by book-binders), is no security to books against book-worms. The best security is from mineral salts, which all insects hate. For this purpose book-binders ought to mix with the paste employed in binding, the salt called arcanum duplicatum, alum, and vitriol. With this precaution books may be preserved from all injury by this mischievous little creature. M. Prediger, in his Instructions to German Book-binders, (Leipsic, 1741,) recommends making paste of starch, instead of flour; and advises to powder slightly the books, their covers, and the shelves on which they stand, with a mixture of powder of alum, and fine pepper; and in the months of March, July, and September, to rub the books with a piece of woollen cloth steeped in powdered alum.

BOO'LY, n. s. An Irish term.

All the Tartarians, and the people about the Caspian Sea, which are naturally Scythians, live in hordes; being the very same that the Irish *boodies* are, driving their cattle with them, and feeding only on their milk and white meats. *Spenser.*

BOOM', n. s. From Dutch, *boom*, a tree. In sea language, a long pole used to spread out the clue of the studding sail; and sometimes the clues of the mainsail and foresail are boomed out. A poll with bushes or baskets, set up as a mark to show the sailors how to steer in the channel, when a country is overflown. A bar of wood laid across a harbour, to keep off the enemy.

The yards secure along the *booms* reined,
While some the flying cords aloft confined.

Falconer's Shipwreck.

As his heroick worth struck envy dumb,
Who took the Dutchman, and who cut the boom.

Dryden.

To Boom, v. n. From the noun. A sea term. To rush with violence; as a ship is said to come booming, when she makes all the sail she can. *Dict.* To swell and fall together.

*Booming o'er his head,
The billows closed; he's numbered with the dead.*
Young.

Forsook by thee, in vain I sought thy aid,
When *booming* billows closed above my head.

Pope.

BOOMITES, a kind of agate, of remarkable brightness and transparency, which represents the figures of shrubs, trees, mosses, &c. in the manner of the dendrachates, or mocho-stone.

BOON', n. From Sax. *bene*, a petition. A gift; a grant; a benefaction; a present.

Vouchsafe me for my meed but one fair look:
A smaller *boon* than this I cannot beg,
And less than this, I'm sure, you cannot give.

Shakspeare.

That courtier, who obtained a *boon* of the emperor,
that he might every morning whisper him in the ear,
and say nothing, asked no unprofitable suit for himself.

Bacon.

The blustering fool has satisfied his wil,
His *boon* is given; his knight has gained the day,
But lost the prize.

Dryden's Fables.

What rhetorick didst thou use

To gain this mighty *boon*? she pities me.

Addison. Cato.

Sated with Nature's *boons*, what thousands seek
With dishes tortured from their native taste,
And mad variety, to spur beyond
Its wiser will the jaded appetite.

Armstrong.

Boon', adj. Fr. *bon*. Gay, merry; as a boon companion.

Flowers, worthy of Paradise, which not nice art
In beds and curious knots, but Nature *boon*
Poured forth profuse on hill, and dale, and plain.

Milton.

Satiate at length,
And heightened as with wine, jocund and *boon*,
Thus to herself she pleasingly began.

Id. Paradise Lost.

I know the infirmity of our family; we play the
boon companion, and throw our money away in our
cups.

Arbutnot.

BOONDY, a town of Hindostan, the residence of a rajah, in the province of Ajmeer, and tributary to the Mahrattas. It is situated on the declivity of a long range of hills, which run nearly from east to west. The palace of the rajah is a large massy stone building, well fortified. In the retreat of the British troops under colonel Manson in 1804, the rajah rendered them considerable assistance.

BOONEN (Arnold), portrait painter, born at Dort in 1669, was at first a disciple of Arnold Verbuys, and afterwards of Godfrey Schalcken, with whom he continued six years. The sweetness of his coloring, and the neatness of his touch, with a striking likeness in his portraits, procured him many admirers. He painted subjects by candle light very naturally, and much more of his work was requested than it was possible for him to undertake. He painted Peter the Great of Muscovy; Frederic I. of Prussia; the duke of Marlborough, many of the princes of Germany, and most of the noblemen who attended the Czar; but his excessive application, to answer the multitude of his engage-

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ments, impaired his health, while it enriched him. He died in 1729, aged thirty-two.

BOONSBOROUGH, a small town of Kentucky, agreeably situated on the south side of the river Kentucky, about 160 miles above its confluence with the Ohio, and twenty south-east of Lexington.

BOOPS, in entomology, a species of sphex, inhabiting Germany. Color, black; three segments of the abdomen, and the tarsi of the legs, testaceous.

Boors, in zoology, the specific name of the pike-headed whale; *Balana boops* of Linnæus. It is distinguished by having double spiracles on the snout, and a horny protuberance at the extremity of the back. This is the Jupiter fish of Anderson; the French name it *la Jubarte*. See **BALÆNA**.

BOOPHTHALMUS, from *βοϋς*, an ox, and *οφθαλμος*, an eye; a kind of gray agate with large dark blue circles in it, resembling an ox's eye.

BOOR, } Dutch, *boer*; Germ. *bauer*.
BOORISH, } In Anglo-Saxon it is only found
BOORISHLY, } in composition, as *gebure*, a countryman; a ploughman, one who lives by works of husbandry; a tiller of the ground; therefore rustic, uneducated, clownish, coarse, barbarous; the savage of a civilized country.

Therefore, you clown, abandon, which is, in the vulgar, leave the society, which, in the *boorish*, is company of this female. *Shakspeare. As You Like It.*

The bare sense of a calamity is called grumbling; and if a man does but make a face upon the *boor*, he is presently a malecontent. *L'Estrange.*

BOORHANPOOR, a city of Hindostan, in the Mahratta territories, and the province of Khandesh, of which it was formerly the capital. It stands on the north-west side of the river 'Tuptee, in lat. 21° 20' N., long. 76° 20' E. The town is the chief place of a singular sect of Mahomedans, named Bohrah, or Ismaeliiah, deriving their origin from one of the early followers of the prophet. They spread over all the countries of the Deccan, and carry on an extensive commerce. In Surat there are 6000 families of Bohrahs, and in Oujain 1500. A younger brother of the moullah, or high-priest, resides at Oujain, and exercises both a temporal and spiritual authority over the Bohrahs resident there. This city was taken possession of by the British under Colonel Stevenson in 1803, but was restored at the conclusion of the peace in December. It is much fallen from its former grandeur. Travelling distance from Nagpoor 256, Poona 283, Bombay 340, and Calcutta, by Nagpoor, 978 miles.

BOOKOOJIRD, a city of Persia, in the province of Irak, standing on the declivity of a mountain. It is a flourishing place, and belonging to it is a district peopled by an agricultural tribe called Lack. Population 12,000.

BOORO, an island in the eastern seas, between the third and fourth degrees of south latitude, and the 126th and 127th of east longitude. In length seventy-five miles, by thirty-eight miles the average breadth. The principal settlement is Cajelli, at the bottom of a gulf of the same name. The Dutch built a stone fort here, which was blown up in 1689; since which

they have only had an enclosure of pallisadoes. Buffaloes and rice abound here, also bananas, cocoa-nuts, lemons, citrons, and bitter oranges: it is on this island that the best cajeputa oil is procured.

The Chinese trade here for cabinet and different species of dye woods. Part of the inhabitants are Mahomedans, but the interior is inhabited by the aborigines or *horaforas*, who live dispersed among inaccessible mountains. The south is much infested by the Papuas from New Guinea.

Boors is a distinctive appellation of the peasants of Russia. In the ukases, and other public documents, they are divided into the free and vassal Boors; the former being the link between the burghers and the vassal peasantry. Free Boors must not be alienated or sold, and they possess property, provided they pay the taxes, and perform their tasks of labour to the state, or to their lords. To this class of the Russian people belong foreign colonists, who have settled as husbandmen, as well as the single house owners; as also the Cossacs, Kalmucs, Tartars, and other nomadic tribes, who inhabit the steppes. The vassal Boors are slaves; not only disqualified for possessing property, but entirely, with every branch of their families, at the disposal of their lords, by whom they may be exchanged or sold like any other property. In Little Russia is an intermediate class, attached as a sort of fixed property to the land, from which they can neither be alienated nor sold. The whole peasantry consists of three classes—Crown Boors, Mine Boors, and Private Boors. 'Dr. Clarke says, 'Traversing the provinces south of Moscow, the land appears as the garden of Eden, a fine soil, covered with corn, and apparently smiling in plenty. Enter the cottage of the poor laborer, surrounded by all these riches, and you find him dying of hunger, or pining from bad food, and in want of the common necessities of life. Extensive pastures, covered with cattle, afford no milk for him. In autumn the harvest yields no bread for his children. The lord claims all the produce. Can there be a more affecting sight than a Russian family having got in an abundant harvest, in want of the common stores to support them, through the rigor of their long and inclement winter!'

The late emperor Alexander, though he only gave absolute freedom to the Boors of Courland, will long be remembered for his rational plans of ameliorating the condition of this class generally, by encouraging the diffusion of useful and religious knowledge among them. He also removed the disqualification of a peasant to engage in any business, or carry on any manufacture on his own account, by an Imperial ukase, dated 28th December 1818 (old style); and encouragement is held out to them to avail themselves of this important concession. Estates in Russia are valued by the number of vassals they feed; this human stock being valued at from 200 to 300 rubles each.

BOOSHATTER, formerly the city of Utica, famous for the retreat and death of Cato, lies about seven miles inland from Porto Farino in the bay of Tunis. Nothing remains of its ancient grandeur, except part of a large aqueduct, some

cisterns, and other ruins, which cover a large extent of ground, and show it to have been a considerable place. The sea came up anciently to this city, though now seven miles distant.

BOOSNAH, a town and district of Bengal, formerly the residence of a foudjdar. Abou Turab khan, who held this office about the year 1730, was murdered by Sittaram, a chief of banditti, who was soon after taken, and, with his male followers, impaled alive; the women and children were sold as slaves. The district is rich and well cultivated. The town stands in long. 89° 39' E., lat. 23° 32' N.

BOOT', *v. & n.* } Ang.-Sax. betan, or botan.
BOOT'LESS, } Bot, in Saxon, is recom-
BOOT'LESSLY, } pense, repentance, or fine,
BOOT'Y, } paid by way of expiation.

Botan is to repent, or to compensate; the precise idea, according to Tooke, is to make up by one thing a deficiency in another. If another suffers injury or loss, we do not repair it in kind, but give an equivalent benefit. To boot, is also something superadded. It is the surplus of a bargain; the overflowing of an advantage; something thrown in over and above. Its general application is, to profit and advantage; to compensate or reward; to serve or be of service to. Boot and booty are the same, namely, acquisition, profit, and advantage; but the latter is applied to what is taken from an enemy; to what is acquired by the marauder and the bandit in their depredations. To play booty is to play dishonestly, with an intent to lose.

Suche evil is not alwaie *botelesse*;
 Why?—put not thus impossible thy cure,
 Sithe thing to come is often avanture.

Chaucer's Troilus and Cresside.

So forth he fared, as now befell, on foot,
 Sith his good steed is lately from him gone;
 Patience perforce: helpeless what may it boot
 To fret for anger or for grieve to mone,
 His palmer now shall foot perforce alone. *Spenser.*

Whereas the damned ghosts in torments fry,
 And with sharp shrilling shriekes doe *botelesse* cry. *Id.*

God did not suffer him, being desirous of the light of wisdom, with *bootless* expence of travel, to wander in darkness. *Hooker.*

It shall not *boot* them, who derogate from reading, to excuse it, when they see no other remedy; as if their intent were only to deny that aliens and strangers from the family of God are won, or that belief doth use to be wrought at the first in them, without sermons. *Id.*

For what I have, I need not to repeat;
 And what I want, it *boots* not to complain. *Shakspeare.*

Thrice from the banks of Wye,
 And sandy-bottomed Severn, have I sent
 Him *bootless* home, and weather-beaten back. *Id.*

Bootless speed,
 When cowardice pursues, and valour flies. *Id.*

My gravity,
 Wherein, let no man hear me, I take pride,
 Could I, with *boot*, change for an idle plume,
 Which the air beats for vain. *Id.*

Canst thou, O partial sleep, give thy repose
 To the wet seaboy, in an hour so rude;
 And, in the calmest and the stillest night,
 With all appliances and means to *boot*,
 Deny it to a king? *Id.*

Others, like soldiers, armed in their stings,
 Make *boot* upon the summer's velvet buds. *Id.*
 And I will *boot* thee with what gift beside,
 That modesty can beg. *Id. Antony and Cleopatra.*
 One way a band select from forage drives
 A herd of beeves, fair oxen, and fair kine,
 Their *booty*. *Milton.*

His conscience is the hue and cry that pursues him;
 and when he reckons that he has gotten a *booty*, he
 has only caught a Tartar. *L'Estrange.*

He might have his mind and manners formed, and
 be instructed to *boot* in several sciences. *Locke.*

What *boots* the regal circle on his head,
 That long behind he trails his pompous robe? *Pope.*

BOOT' N. & V. } Ang.-Sax. abutan, about;
BOOT'CATCHER, } because, says Skinner, boots
 go round, or about, the legs. 'It is more prob-
 ably,' says the Ency. Met. 'from the Ang.-Sax.
 botan; Dut. *boeten*, to boot; to superadd; to
 supply; to add something more to make up a
 deficiency in something else. The boot of a
 coach is something superadded to the coach;
 boots for the legs are an additional covering or
 protection for the legs.' Perhaps it is rather from
 the Welsh, *butias*; pronounced bootias (a pair of
 boots), derived from bot, any round body.

His *bootes* souple, his hors in gret estat,
 Now certainly he was a fayre prelat.

Chaucer's Canterbury Tales.

His lacquey with a linen stock on one leg, and a
boot-hose on the other, gartered with a red and blue
 list. *Id.*

That my leg is too long—

—No; that is too little.—

I'll wear a *boot*, to make it somewhat rounder. *Id.*

A *booted* judge shall sit to try his cause,

Not by the statute, but by martial laws. *Dryden.*
 The ostler and the *bootcatcher* ought to partake. *Swift.*

Bishop Wilkins says he does not question but it will
 be as usual for a man to call for his wings, when he
 is going a journey, as it is now to call for his boots.

Addison's Guardian.

Boot, among the ancient Romans, was called
 ochrea; and by middle age writers, greva, gam-
 beria, bainberga, bembarga, or benberga. The
 boot is said to have been the invention of the
 Carians. It was at first made of leather, after-
 wards of brass or iron; whence Homer calls the
 Greeks brazen-booted. The boot was used by the
 foot, as well as by the horsemen. It only covered
 half the leg; some say the right leg, which was
 more advanced than the left, it being advanced
 forwards in an attack with the sword; but in
 reality it appears to have been used on either leg,
 and sometimes on both. Those who fought with
 darts or other missile weapons, advanced the left
 leg foremost, so that this only was booted.

Boot, Bordekin, a mode of torture used to
 extort confession. A boot, stocking, or buskin
 of parchment, being put on the leg moist, and
 brought near the fire, in shrinking squeezes the
 leg violently, and occasions intolerable pain.
 There is also another kind of boot, consisting of
 four thick strong boards bound round with cords;
 two of these are put between the criminal's legs,
 and the two others placed one on the outside of
 one leg, and the other on the other; then, squeez-
 ing the legs against the boards by the cords, the

criminal's bones are severely pinched, and sometimes even broken.

BOOTAN, a considerable region of northern Hindostan, lying between Bengal and Thibet, and principally between the 26th and 28th degrees of north latitude. It is supposed to be 200 miles from east to west, and ninety miles from north to south. It is mountainous, and in many parts extremely cold, but highly cultivated and productive. Situated without the tropics, it is free from the periodical rains; and the climate is in general favorable to both European and Asiatic fruits. The forests also produce fine firs and other timber. The deb or deu rajah, who resides at Tassisudon, is tributary to the lama of Thibet. The principal towns are Tassisudon, Poonakha, Wandipore, Ghassa, and Murrichom. The inhabitants are robust and fair. of the Booth religion. Most of the laborious duties of life are performed by the women. Their houses are in general of one story, but the palace of the rajah is a lofty pile. The glandular swelling of the throat, commonly found in mountainous districts, is very frequent here. Bootan produces a hardy breed of horses called tangans; they are in general pyebald, and about thirteen hands high. Numbers are brought annually to Rungpore, loaded with the produce of their own country, and of Thibet and China. The district is supplied with silk from Bengal, and with tea from China; of this herb they are excessively fond. The government is very jealous of a free intercourse with Bengal, requiring passports from all travellers; and boast that they were never invaded by the Mahommedans or Chinese. Their customs approach to those of the Birmans or inhabitants of Ava.

BOOTES, a constellation of the northern hemisphere, consisting of twenty-three stars according to Ptolemy's catalogue, of eighteen in Tycho's, of thirty-four in Bayer's, of fifty-two in Hevelius's, and of fifty-four in Flamstead's catalogue; one of which, in the skirt of his coat, is Arcturus, a star of the first magnitude. Bootes is represented as a man walking, and grasping a club in his right hand, and is fabled to have been Icarus, who was transported to heaven because he was a great cultivator of the vine; for when Bootes rises, the vine begins to shoot.

BOOTH, *n. s.* Dut. *boed*; Welsh, *butth*. A house built of boards, or boughs, to be used for a short time.

The clothiers found means to have all the quest made of the northern men, such as had their *booths* in the fair. *Camden.*

Much mischief will be done at Bartholomew Fair by the fall of a *booth*. *Swift.*

Booths sudden hide the Thames, long streets appear,

And numerous games proclaim the crowded fair.

Gay.

BOOTH (Barton), a famous tragedian, born in Lancashire in 1681, and educated at Westminster, under the celebrated Dr. Busby. He was intended for the church, but his success in the Latin plays, commonly performed by the scholars, gave him an inclination for the stage; and, absconding from school, he went to Dublin, and commenced actor. His first appearance was

in the part of Oroonoko, in which he received great approbation. From this time he continued improving; and, after two successful campaigns, returned to his native country. Having, by letter, reconciled himself to his friends, he obtained a recommendation from Lord Fitzharding to Mr. Betterton, who gave him all the assistance in his power. The first part he appeared in at London was that of Maximus in Lord Rochester's *Valentinian*, wherein his reception exceeded his most sanguine expectations. His performance of Artaban, in Rowe's *Ambitious Step-mother*, established his reputation. In *Pyrrhus*, in the *Distressed Mother*, he shone without a rival. But he was indebted to a happy coincidence of merit and chance, for that height of fame which he at length attained in the character of Cato, as drawn by Addison in 1712. For this being considered as a party play, the Whigs, in favor of whose principles it was evidently written, thought it their duty strongly to support it, while the Tories, unwilling to have it considered as a reflection on their administration, were still more vehement in their approbation. They made a collection of fifty guineas in the boxes during the performance, and presented them to Mr. Booth. He also received an equal sum from the managers, in consideration of the great success of the play. Nor were these the only advantages he reaped from his success; for Lord Bolingbroke soon after procured a special licence from queen Anne, recalling all the former ones, and nominating Mr. Booth as joint manager at Drury-lane with Wilks, Cibber, and Dogget. In 1704 Mr. Booth had married a daughter of Sir William Barkham, Bart. who died in 1710, without issue. In 1719 he married the celebrated Miss Hester Santlow, a woman of a most amiable disposition, whose great merit as an actress, added to the utmost discretion and prudential economy, had enabled her to save a considerable fortune. During the twenty years in which Mr. Booth continued a manager, the theatre was in the greatest credit; and his death, which happened on the 10th of May 1733, contributed not a little to its decline. He wrote a dramatic work, entitled *Dido and Æneas*; and a superior Latin inscription to the memory of Mr. William Smith, an actor.

BOOTH (Henry), earl of Warrington, was born in 1651, and member for Chester in several parliaments during the reign of Charles II. Being a zealous Protestant, he was active in promoting the bill for excluding the duke of York from the throne. This, with his vigorous and constant opposition to the arbitrary measures then prevailing, rendered him so very obnoxious to the court, that in 1684 (soon after his becoming Lord Delamere, by the death of his father), he was committed close prisoner to the tower, and though liberated soon after, he was committed a second and third time in 1685; at last, in Jan. 1686, he was tried for high treason; but in spite of all the efforts of the court and the bloody Jefferies, was acquitted by his jury. After this, he lived retired till matters ripened for the Revolution, to which he contributed by raising forces, and every other means in his power. Upon its accomplishment, he was made a privy counsellor,

chancellor of exchequer, lord lieutenant of Chester, &c.; but though he held some of these offices for life, he was dismissed from others, as he opposed the court measures, and wished for further limitations of the royal prerogative. To avoid all appearance of ingratitude, his dismissal was accompanied with the creation of the new title of Earl of Warrington, in 1690, and a pension of £2000 a year. He died 2d January, 1694. He wrote several political tracts, and the Case of William Earl of Devonshire; which, with his speeches made in parliament, and some family prayers, were published in one volume, 8vo. in 1694.

BOOTH (Abraham), a dissenting clergyman of the Baptist persuasion, was born at Blackwell, in Derbyshire, in 1734, of poor parents. He had consequently but little education, and at an early age was placed with a stocking-weaver. He studied the Scriptures diligently, however, and became so well versed in them as to be called to the ministry among the Baptists, and he at the same time opened a school at Sutton-Ashfield. In 1769 he was ordained pastor of the church in Prescott-street, Goodman's-fields, where he exercised his charge in a great professional conduct and a spotless character till his death in 1806. He wrote, 1. *The Reign of Grace*, 8vo. 2. *Glad Tidings to Perishing Sinners*. 3. *The Death of Legal Hope, the Life of Evangelical Obedience*, 12mo. 4. *An Essay on the Kingdom of Christ*. 5. *Pastoral Cautions*. 6. *Pædobaptism Examined*, 3 vols. and some other works.

BOOTON, an island of the Eastern Seas, lying off the south-eastern extremity of Celebes, in about the fifth degree of south latitude. Its length may be estimated at eighty-five miles, and its width at twenty miles. It is separated from the island of Pangansane by a strait which is passable for square rigged vessels. This island is high and woody, but well cultivated, and produces rice, maize, yams, a variety of tropical fruits, and abundance of the wild bread fruit tree. Fowls, goats, buffaloes, and fish, are also to be procured here. The inhabitants are very tawny, of short stature, and ugly; their language on the sea coast is the Malay, and their religion Mahomedan. The Dutch had formerly a settlement in the bay of Booton, and held the chief of the island under a sort of subjection. On the east side is a bay, named by the Dutch Dwaal, or Mistake Bay, into which if a ship be drifted by the currents, she cannot get out until the west monsoon sets in, and even then it is difficult. A Dutch governor, going to Banda, was detained in this gulf a whole year.

BOOT-TOPPING, in sea language, the act of cleaning the upper part of the ship's bottom, or that part which lies immediately under the surface of the water, and daubing it over with tallow, or with a mixture of tallow, sulphur, resin, &c.

BOOTY,
BOOT'ING, v. } See BOOT.
BOOTY'ING. }

If it be indeed an incendiary letter, what if you and I, sir, go there; and when the writer comes to be paid for his expected *booty*, seize him. *Goldsmith*

BOOTY, among the Greeks, was divided in common among the army, the general only claiming a larger share. By the military discipline of the Romans, spoils taken from the enemy belonged to the republic, particular persons having no right to them. Sometimes indeed they divided it among the soldiery, to animate them, and serve in lieu of a reward. But this distribution depended on the generals, who were to conduct themselves herein with great equity and moderation; otherwise it became a crime of speculation to lay hands on the pillage. The consuls Romulus and Vaturius were condemned for having sold the booty taken from the Æqui. During the Jewish republic, the booty was divided equally between the army and the people; but under the kings a different kind of distribution obtained. Among the Mahomedans, two-thirds of the spoils are allowed to the army; the other third to God, to Mahomet and his relations, and to the orphans, the poor, and the pilgrims. Among us, formerly, the booty was divided among the soldiers. If the general be in the field, every body takes what he can lay hold of: if the general be absent, the booty is distributed among the soldiers, two parts being allowed the cavalry, and one to the infantry. A captain is allowed ten shares, a lieutenant six, and a cornet four.

BO'PEEP. Bo and peep; childish play, not always confined to children. A kind of advancing and retiring; looking and hiding the face, for the mere purpose of drawing each other on to further amusement. It is sometimes played by parent and child; by knave and fool; by the gallant and his wanton.

The woman wantonnesse, shee comes with 'ticing traine;

Pride in her pocket plaies *bopeepe*, and bawdry in her braine. *Gascoigne's Flowers.*

Then they for sudden joy did weep,

And I for sorrow sung,

That such a king should play *bopeep*,

And go the fools among. *Shakespeare.*

Rivers,

That serve instead of peaceful barriers,
To part the' engagements of their warriors,

Where both from side to side may skip,

And only encounter at *bopeep*. *Hudibras.*

There the devil plays at *bopeep*, puts out his horns to do mischief, then shrinks them back for safety.

Dryden.

Just so, in life he runs about,

Plays at *bopeep*, now in now out;

But hurts no mortal creature. *E. Moore.*

BOPYRUS, in entomology, a genus of the class arachnides, order tetracera, and family assellota, of Latreille: the monoculi of Linnæus. They live by suction on different marine crustacea.

BOQUINIANS, BOQUINI, a sect of Sacramentarians, who asserted that the body of Christ was present in the Eucharist only to those for whom he died; viz. the elect.

BOQUINUS, the founder of the sect of Boquinians, a Lutheran divine, who taught that Christ did not die for all mankind, but only for the faithful, and consequently was only a particular Saviour. In this opinion he was not singular.

BORA, in natural history, the name used for the bufonites, by some authors; these are supposed by many to be real stones, but are only the teeth of a fish.

BORACIC ACID. To procure this acid, dissolve borax in hot water, filter the solution, then add sulphuric acid by little and little, till the liquid has a sensibly acid taste, and when cool, a great number of small shining crystals will form. These are the boracic acid. They are to be washed with cold water, and drained upon brown paper. Homburg first obtained this acid separate in 1702, by distilling a mixture of borax and sulphate of iron.

Boracic acid appears in the form of thin irregular hexagonal scales, of a silvery whiteness, having a kind of greasy feel. It has at first a sourish taste, then a bitter cooling impression, leaving an agreeable sweetness. It is not brittle but ductile; it has no smell. Exposed to the fire it swells, losing its water of crystallisation, and in this state it is called calcined boracic acid. It melts a little before it is red-hot, but it does not flow freely till it is red. After fusion it is a hard glass, unaltered in its properties, for on being dissolved in boiling water it crystallises as before. This glass is much used in the composition of false gems.

Boiling water dissolves scarcely one-fiftieth part; cold water much less. It is more soluble in alcohol, and alcohol containing it burns with a green flame. If mixed with finely powdered charcoal, it is capable of vitrification; and with soot it melts into a black bitumen-like mass, soluble in water, and not easily burned to ashes; part sublimes. With the assistance of a distilling heat it dissolves in oils, especially mineral oils; and with these it imparts a green color to spirit of wine. When rubbed with phosphorus it does not prevent its inflammation, but an earthy yellow matter is left behind. It dissolves none of the metals except iron and zinc, and perhaps copper; but it combines with most of the metallic oxides, as it does with the alkalis. It is of great use in analysing stones that contain a fixed alkali.

Crystallised boracic acid is a compound of fifty-seven parts of acid and forty-three of water. The honor of discovering the radical of boracic acid, is divided between Sir H. Davy and M.M. Gay Lussac and Thenard. The first, on applying his powerful voltaic battery to it, obtained a chocolate-colored body in small quantity; but the two latter chemists, by acting on it with potassium in equal quantities, at a low red heat, formed boron and sub-borate of pot ash. See *Boron*.

The boracic acid has been found in a disengaged state in several lakes of hot mineral waters in Tuscany, in the proportion of nearly nine grains in a hundred of water; and also adhering to schistus, on the borders of lakes, of an obscure white, yellow, or greenish color, and crystallised in the form of needles.

BORACITE. Borate of magnesia. A crystallised mineral found in Gypsum in the Kalberg in Brunswick, and at Segeberg in Holland. It is translucent, and of a shining lustre; color yellow, gray, or greenish-white. Vauquelin's

Analysis gives 83.4 boracic acid, and 16.6 magnesia. Its most remarkable property is, that like the tourmalin it becomes electric by heat; and it has four electric poles, the perfect angles always exhibiting negative electricity, and the truncated angles positive.

BORAGO, **BORAGE**, in botany, a genus of plants, of the class pentandria, order monogynia. The generic character is, *cal.* five cleft: *cor.* rotate, having at its orifice five obtuse emarginate teeth. It contains seven species, the most remarkable of which is the *B. officinalis*, or common borage, employed in medicine as a refrigerant. It grows wild in this country, but was brought from Aleppo.

BORAK, *AL*, in the Mahommedan theology, the animal, something between a mule and an ass, which carried the prophet on his journey from Jerusalem to heaven. The night on which he performed this excursion is called *Leilat al Meérage*, the night of the ascension.

BORANA, in entomology, a species of tortrix, inhabiting Sweden. The head cinereous, and thorax fuscous.

BORASSUS, in botany, a genus of plants described by Linnaeus. The male and female flowers grow on separate plants, and are called by different names, in the *Hortus Malabaricus*; the male being called *ampana*, and the female *carimpana*: *cal.* a spathe; *spadix* amentaceous, imbricate: *cor.* three-parted. *Fem.* styles three: drupe three-celled, three-seeded. One species only, a native of India, a palm with leaves folded like a fan, and cut at the edges.

BORAX is a salt, in appearance similar to alum, brought originally from the East Indies in an impure state, and afterwards purified in Europe. It was long uncertain whether this salt was a natural or factitious substance; but it is now ascertained that it is naturally produced in the mountains of Thibet, from whence other parts of the eastern continent are supplied. Mr Kirwan, in his mineralogy, informs us, that Mr. Grill Adamson sent some to Sweden in 1772, in a crystalline form, as dug out of the earth in Thibet, where it is called *pounxa*, *my-poun*, and *houi-poun*. It is said to have been found in Saxony in some coal-pits.

Borax is found, in commerce, in three different states. 1. Borax, Chinese, is somewhat pure, and is met with in the form of small plates or masses irregularly crystallised, and of a dirty white. It appears to consist of fragments of prisms and pyramids, confounded together without any symmetrical arrangement. A white powder appears on the surface, thought to be of an argillaceous nature. 2. Borax, crude, tincal, or chrysocola, comes from Persia in greenish masses, of a greasy feel, or in opaque crystals of an olive green, which are six-sided prisms terminated by irregular prisms. There are two varieties of these crystals, differing in magnitude. This salt is very impure by the addition of foreign matters. Mr. Kirwan tells us, that this kind is called *brute borax*, *tincal*, or *chrysocola*, and that it is in the form of large, flat, hexangular, or irregular crystals, of a dull white or greenish color, greasy to the touch, or in small crystals, as it were cemented together by a rancid yel-

lowish oily substance, intermixed with marl, gravel, and other impurities. 3. Borax, Dutch, or purified borax, is in the form of portions of transparent crystals of considerable purity. Pyramids with several facets may be observed among them, the crystallisation appearing to have been interrupted. Its taste is styptic; it converts syrup of violets to a green; and when exposed to heat, it swells up, boils, loses its water of crystallisation, and becomes converted into a porous, white, opaque mass, commonly called calcined borax. A stronger heat brings it into a state of quiet fusion; but the glassy substance thus afforded, which is transparent, and of a greenish-yellow color, is soluble in water, and effloresces in the air. It requires about eighteen times its weight of water to dissolve it at the temperature of sixty degrees of Fahrenheit; but water at the boiling heat dissolves three times this quantity. Its component parts, according to Kirwan, are, boracic acid thirty-four, soda seventeen, water forty-seven.

Borax serves as a flux to vitrifiable earths, with which it forms a good glass, and is employed in making artificial gems. It vitrifies clay, but much less completely than siliceous earths; and from this property it adheres to the inside of crucibles, and glazes them. The acid of borax, as well as the borax in substance, is made use of to fuse vitrifiable earths, with which it forms clear and nearly colorless glasses: by the assistance of heat it dissolves the earth precipitated from the liquor of flints. It unites with ponderous earth, magnesia, lime and alkalies, and forms, with different substances, salts distinguished by one general name of borax, though only that formed by the combination of sedative salt and mineral alkali is used in the arts. It is used in many other chemical operations as a flux, besides that of glass making; and the dyers also use it for giving a gloss to silks. In medicine it is occasionally given in cardialgia as an antacid. Its solution is in common use as a cooling gargle, and to detach mucus, &c. from the mouth in putrid fever; and mixed with an equal quantity of sugar, it is used in the form of powder to remove the aphthous crust from the tongue in children.

BORBETOMAGUS, in ancient geography, a city of the Vangiones on the Rhine; now called Worms.

BORBONIA, in botany, a genus of the decandria order, and diadelphica class of plants; natural order, thirty-second, caryophyllææ: *strig.* emarginated: *cal.* spines pointed; the legumen is pointed. There are eight species, all natives of warm countries. They are a kind of broom; and rise to the height of ten or twelve feet, but in Europe seldom above four or five. They must be kept constantly in the stove, and may be propagated by shoots; but as these are generally two years before they put forth roots, the best method is by seeds, which must be procured from their native places.

BORBONICA, in ornithology, a species of motacilla; color grayish; a yellowish gray beneath; quill and tail-feathers brown, edged with gray. This is the ficedula borbonica of Brisson; and the Bourbon warbler of Latham. Inhabiting the islands of Bourbon and Madagascar.

BORBONICUS, a species of turdus, of a cinereous olive color; crown black; abdomen and vent yellow; tail fuscous, with two obsolete bands near the tip. Inhabits the isle of Bourbon. This is the Bourbon thrush of Latham.

BORBONIUS (Nicholas), a French Latin poet of the sixteenth century. He was highly esteemed by the most learned men of his time. His poems were printed in 1540.

BORBORIANI, BORBORITES, in church history, a sect of gnostics, in the second century, who, besides embracing the errors of these heretics, denied the last judgment. Their name comes from *Βορβορος*, filth; on account of a custom they had of daubing their faces and bodies with dirt.

BORBORYGMUS, *Βορβορυγμος*; Greek, a rumbling of the intestines.

BORD HALFPENNY, a small toll by custom paid to the lord of the town for setting up boards, tables, booths, &c. in fairs or markets.

BORD LANDS, the demesnes which lords anciently kept in their hands, for the maintenance of their board or table.

BORD LOPE, 1. a service required of tenants, to carry timber out of the woods of the lord to his house: 2. the quantity of provision which the Bordarii, or bordmen, paid for their bord lands.

BORD SERVICE, the tenure of bord lands, by which some lands in certain places are held of the bishop of London, and the tenants now pay sixpence per acre, in lieu of sending provision as formerly for their lords' table.

BORDA (John Charles), a French mathematician and natural philosopher; was born at Dax, in the department of the Landes, 1733. He studied under the Jesuits, who endeavoured to induce him to enter into their order, and was afterwards intended for a civil employment; but, in consequence of his passion for geometry, he was suffered to devote himself to the sciences. In 1756 he laid before the Academy a Memoir on the motion of Projectiles, which procured him admission into that body. The year following he was aide-de-camp to M. de Maillebois at the battle of Hastembeck, and on his return to Paris was employed as inspector of the dock-yards. In this situation he made numerous experiments on the resistance of fluids and the velocity of motion. In 1767 he published a valuable Dissertation on Hydraulic Wheels; and, in 1768, another on the Construction of Water-pumps. He was now appointed sub-lieutenant in the marine, and sent with Pingrè on a voyage of discovery to the South Seas, of which an account was published in 2 vols, 4to. 1778. He afterwards served under count d'Estaing in America, when he discovered many defects in the construction of vessels, which led to some important improvements in naval architecture. He also produced an invention called the Circle of Borda, the first idea of which was given by Meyer. Besides this he was the contriver of the mensuration-rod, for ascertaining new station-lines. He also projected a reform in weights and measures; for which purpose he published Tables of Lines, at his own expense. One of his last labors was the determination of the length of the pendulum

vibrating seconds at Paris; where he died, greatly lamented, in 1799.

BORDARII, often mentioned in the Domesday inquisition, were distinct from the servi and villani, and seem to be those of a less servile condition, who had a bord or cottage, with a small parcel of land allowed to them, on condition they should supply the lord with poultry and eggs, and other small provisions for his board and entertainment. Though, according to Spelman, the bordarii were inferior to the villani, as being limited to a small number of acres.

BORDAT, in commerce, a small narrow stuff, manufactured in some parts of Egypt, particularly in Cairo, Alexandria, and Damietta.

BORDE (Andrew), M. D. was born at Pevensey in Sussex, early in the sixteenth century. In his Introduction to Knowledge, he says, that he was a student of Oxford. He entered a brother of a Carthusian convent in or near London; but, not liking their discipline, he returned to Oxford, and applied to physic. Some time after, he embarked for the continent; and, as he expresses it, 'travelled through and round about Christendom, and out of Christendom into some parts of Africa.' In 1541, and 1542, he resided at Montpellier, where he was made M. D. and after his return to England received the same degree at Oxford. From his preface it appears that he had also been in Scotland. Having satisfied his inclination for travelling, he settled first at Pevensey, afterwards at Winchester, and finally in London, where he became first physician to Henry VIII; notwithstanding which, he had the misfortune to end his life in the Fleet prison, in 1549. Wood says, 'he was esteemed a noted poet, a witty and ingenious person, and an excellent physician.' Pitts calls him a man of sufficient learning, but too volatile. His writings are, 1. A Book of the Introduction of Knowledge, the which doth teach a Man to speak part of all manner of Languages, &c. Lond. 1542, 4to; dedicated, from Montpellier, to the lady Mary, daughter of Henry VIII. It is written partly in verse, and partly in prose. 2. The Breviary of Health, Lond. 1547, 4to. 3. Dietary of Health, Lond. 1576, 8vo. 4. The Merry Tales of the Madmen of Gotham: printed, says Wood, in the time of Henry VIII., in whose reign, and after, it was accounted a book full of wit and mirth, by scholars and gentlemen. It is now sold only on the stalls of ballad-sellers. 5. A Right Pleasant and Merry History of the Mylner of Abingdon, with his Wife and his Fair Daughter, and of Two Poor Scholars of Cambridge; Lond. 4to. 6. A Book of every Region, Country, and Province, &c. published by Hearne at end of Benedictus abbas Peterb. de vita Henrici II., Oxf. 1735; 8vo. 7. The Principles of Astronomy, Lond. 12mo. The author says, that he wrote this little book in four days, with one old pen, without mending.

BORDELL, } A brothel. Menage thinks
BORDELLO, } the old French bordeau is
BORDELLER. } compounded of board and
 eau, because such places were heretofore by the
 water side. Wachter contends that bordell is the
 diminutive of the Ang-Sax. bord, a house; and
 properly signifies domuncula, a small house.

— And the same shall the man tell plainly, with
 all the circumstances, and whether he hath sinned
 with common *bordel* women or non, or don his sin in
 holy times or none. *Chaucer's Canterbury Tales.*

From the *bordello* it might come as well,
 The spital, or pichatch. *Ben Jonson.*

Making even his own house a stew, a *bordel*, and a
 school of lewdness, to instil vice into the unwary ears
 of his poor children. *South.*

BORDENTOWN, a thriving town of the
 United States in Burlington County, New Jersey;
 seated on the east side of the Delaware, twenty-
 six miles above Philadelphia, and four south-
 east by south of Trenton. As it stands on a
 rising ground, about seventy feet perpendicular
 above the Delaware, between two creeks which
 run into that river, it is extremely healthy.

BORDER, *v. & n.* } *Fr. border; Dut.*
BORDERER. } *boorden*, from board;
 and also aboard, in its consequential usage. To
 approach; to accost, or accoast; to be, or come
 near upon; close to the edge or confines; close
 to: also to surround with an edge or border.
Border is the outer part or edge of any thing;
 the confines of a country; the outer part of a
 garment; a bank raised round a garden and set
 with flowers.

If a prince keep his residence on the *border* of his
 dominions, the remote parts will rebel; but if he
 make the centre his seat, he shall easily keep them in
 obedience. *Spenser.*

All over her a cloth of state was spread,
 Not of rich tisew, nor of cloth of gold,
 Nor of ought else that may be richest red
 But like a cloud, as like may be told,
 That her brode-spreading wings did wyde unfold;
 Whose skirts were *bordered* with bright sunny beames.
Id.

I saw a thousand huntsmen, which descended
 Downe from the mountaines *bordering* Lombardie,
 That with an hundred speares her flanks wide rended.
Id.

They of those marches, gracious sovereign!
 Shall be a wall sufficient to defend
 Our island from the pilfering *borderers*. *Shakspeare.*

The king of Scots in person, with Perkin in his
 company, entered with a great army, though it chiefly
 consisted of *borderers*, being raised somewhat sud-
 denly. *Bacon.*

Sheba and Raamah are those parts of Arabia,
 which *border* the sea, called the Persian gulf. *Raleigh.*

Yet on she moves, now stands and eyes thee fixed,
 About t' have spoke, but now with head declined,
 Like a fair flower surcharged with dew she weeps,
 And words addressed seem into tears dissolved,
 Wetting the *borders* of her silken veil.

Milton's Samson Agonistes.

The light must strike on the middle, and extend its
 greatest clearness on the principal figures; diminish-
 ing by degrees, as it comes nearer and nearer to the
borders. *Dryden.*

All wit which *borders* upon profaneness, and
 makes bold with those things to which the greatest
 reverence is due, deserves to be branded with folly.

Tillotson.

Volga's stream
 Sends opposite, in shaggy armour clad,
 Her *borderers*; on mutual slaughter bent,
 They rend their countries. *Philips.*

My spouse and boys dwell near thy hall,
 Along the bordering lake,
 And when they on their father call
 What answer shall she make.

Byron.

BORDERS, among florists, the leaves which stand round the middle thrum of a flower.

BORDERS, in gardening, are made to enclose parterres, that they may not be injured by walking in them. Borders are made either circular, straight, or in cants; and are turned into knots, scrolls, volutes, and other compartments. They are rendered very ornamental by the flowers, shrubs, yews, &c. that are raised in them. They are always laid with a sharp rising in the middle; to render them more agreeable to the eye: the largest are allowed five or six feet, and the smallest commonly four.

BORDERS, or BORDURES, in heraldry, are either plain or indented as in fig. 1 vert; a bordure indented, argent. Borders are charged in the same manner as the field; thus a border

Fig. 1.



Fig. 2.



analuron consists of birds, as in fig. 2. He beareth, argent; a bordure, vert; enlurens of martlets, or; so borders enurency composed of beasts; verdoy, of vegetables; entoyer, of inanimate things.

BORDRAGINGS. Probably ravages committed on the borders.

Long time in peace his realm established,
 Yet oft annoy'd with sundry bordragings
 Of neighbour Scots, and foreign scatterlings.

Spenser.

BORDUNI, or BORDONE (Paris), an excellent Italian painter, born at Venice about 1512. He was the disciple of Titian; but has been admired more for the delicacy of his pencil, than for the truth of his outlines. For Francis I. of France, he drew not only abundance of history pieces, but the portraits of several court ladies, in so fine a manner, that original nature was hardly more charming. He died in 1587, aged seventy-five.

BORE', v. & n. } Ang.-Sax. borian. Wach-
 Bo'ER. } ter and Skinner think the
 Greek, *περαν*, to pierce; whence the Lat. *forare*, to bore, is the parent of this word; to pierce; to penetrate through; to make a hollow, or a cavity through; to push forwards towards a certain point. Metaphorically, to tease by ceaseless repetition; like the unvarying continued action of a borer.

Those milk paps,
 That through the window bars bore at men's eyes,
 Are not within the leaf of pity writ.

Shakspeare.

I read in his looks
 Matter against me; and his eye reviled
 Me as his abject object: at this instant
 He bores me with some trick. He's gone to the king;
 I'll follow and outstare him.

Id.

Mulberries will be fairer, if you bore the trunk of the tree through, and thrust, into the places bored, wedges of some hot trees.

Bacon.

It will best appear in the bores of wind instruments; therefore cause pipes to be made with a single, double, and so on, to a sextuple bore; and mark what tone every one giveth.

Id.

But Capys, and the graver sort, thought fit
 The Greeks' suspected present to commit
 To seas or flames; at least, to search and bore
 The sides, and what that space contains to' explore.

Denham.

Into hollow engines long and round,
 Thick rammed, at the' other bore with touch of fire
 Dilated, and infuriate.

Milton.

Nor southward to the raining regions run;
 But boring to the west, and hovering there,
 With gaping mouths they draw prolific air.

Dryden.

We took a cylindrical pipe of glass, whose bore was about a quarter of an inch in diameter.

Boyle.

These diminutive caterpillars are able, by degrees, to pierce or bore their way into a tree, with very small holes; which, after they are fully entered, grow together.

Ray.

Consider, reader, what fatigues I've known,
 What riots seen, what bustling crowds I bored,
 How oft I crossed where carts and coaches roared.

Gay.

BORE', } The past tense, and past par-
 BORN'. } tiple of the verb to bear. See BEAR,

And on his arm a bunch of keys he bore,
 The which unused rust did overgrow;
 Those were the keys of every inner door,
 But he could not them use, but kept them still in store.

Spenser.

Only a target light, upon his arm
 He careless bore.

Fletcher's Purple Island.

Their charge was always born by the queen, and duly paid out of the exchequer.

Bacon.

The great men were enabled to oppress their inferiours; and their followers were born out and countenanced in wicked actions.

Davies.

But he his wonted pride
 Soon recollecting, with high words, that bore
 Semblance of worth, not substance, gently raised
 Their fainting courage, and dispelled their fears.

Milton's Paradise Lost.

The father bore it with undaunted soul,
 Like one who durst his destiny controul;
 Yet with becoming grief he bore his part,
 Resigned his son, but not resigned his heart.

Dryden.

'Twas my fate
 To kill my father, and pollute his bed
 By marrying her who bore me.

Id.

Upon some occasions, Clodius may be bold and insolent, born away by his passion.

Swift.

BORE (Catharine de), wife of Luther, the celebrated reformer, was the daughter of a private gentleman, and was born about A. D. 1499. Having been early immured in the monastery of Nimptschen, she left it, along with other eight nuns in 1523, during the bustle of the holy week, and was married to Luther in 1526. On these accounts the Catholic writers raised many calumnies against her, from which Mr. Bayle has very completely vindicated her; and points out numberless mistakes of Varillas and others concerning her. He gives her an excellent character, and mentions, that Luther was satisfied so with his choice, that he said, 'he would not change his condition for the wealth of Ctesus.' She bore him five children, and survived him a few years. She died at Torgau in 1552, aged fifty-three.

BO'REAL. Lat. *borealis*, from *boreas*, the name given to the north wind; *απο της βορρς*, says Vossius, from its bellowing, roaring noise.

BOREALIS, in conchology, a species of *venus*; lenticiform, with very remote membranaceous transverse stræ; color, dirty white. Inhabiting the north of Europe.

BOREALIS, in entomology, a species of *tabanus*, distinguished by having the eyes with three purplish bands; abdomen black; thorax brown; legs black. A rare species. Also a species of *coccinella*, of a reddish or yellowish color, with twelve black dots on the wing-cases, and four on the thorax. A native of the cape of Good Hope.

BOREALIS, in natural history, a species of *clio*, of a whitish color, the head terminated in a flesh-colored pointed papilla; tentacula three, fleshy, and thick at the mouth. Inhabiting the north seas. Also a species of *echinorhynchus*, found in the intestines of the Eider duck.

BOREALIS, in ornithology, a species of *anas*, with a narrow bill, green head, white throat and abdomen. This is the Gauland duck of Latham. A native of Iceland. Also a species of *tringa*, the belly and legs of which are fuscous; body cinereous above, white beneath; tail and wings dusky. This is the Boreal sand-piper of Latham. Also a species of *motacilla*, of a green color; yellow beneath; front, throat, and temples ferruginous; tail rotund, feathers on the sides and at the tips white. A native of Kamtschatka; the rusty-headed warbler of Latham.

BOREALIS, AURORA. See **AURORA**.

BO'REAS. The north wind.

But all this glee had no continuance;
For eftssoones winter gan to approche;
The blustering *Boreas* did encroche,
And beate upon the solitary Brece,
For nowe no succour was scene him neere. *Spenser.*

Beat on proud billows; *Boreas*, blow:
Swell curled waves high as Jove's roof;
Your incivility doth show
That innocence is tempest proof;
Though surly Nereus frown, my thoughts are calm;
Then strike, affliction, for thy wounds are balm.

Old Song.

* * If tradition may be credited, this excellent old song was written by Sir R. L'Estrange.

Now from the north
Of Norumbega, and the Samoed shore,
Bursting their brazen dungeon, armed with ice
And snow and hail, and stormy gust and flaw,
Boreas and *Cæcias* and *Argestes* loud,
And *Thracios* rend the woods, and seas upturn.

Milton.

BOREAS is derived by Chambers from the Greek, *βορρα*, food; because the north wind creates an appetite. Anciently boreas signified the north-east wind blowing at the time of the summer solstice.

BOREAS, in ancient mythology, is represented as the son of the giant *Astræus*, by the goddess *Aurora*, and to have reigned in Thrace, because Thrace lay north of Greece. He ravished *Orithya* the daughter of *Erechtheus*, king of Athens, who bore him *Zetus* and *Calais* two of the *Argonauts*, and six daughters. He is also said to have carried off *Chloris*, the daughter

of *Arcturus*. The Greeks paid divine honors to *Boreas*. The *Megalopolitans* honored him as their chief deity; and the *Athenians*, considering him as their ally, by his marriage with their ancient king's daughter, implored his aid in their wars with the *Persians*. He is represented on the temple at Athens with his robe before his mouth, as if he felt the cold of the climate over which he presides; agreeably to which, *Ovid* calls him *gelidus tyrannus*, the shivering tyrant. He is usually described by the Roman poets as violent and impetuous.

BOREASMI, feasts instituted at Athens in honor of *Boreas*.

BOREL (Peter), M. D. was the son of James Borel, who published several poems, and was born at Castres in 1620. He applied himself to the study of physic, and practised with great success in the city of Castres; where he collected a fine museum of natural curiosities, of which he published a catalogue in 1645, in 4to. Towards the end of 1653, he went to Paris, and was soon after made king's physician; and, in 1674, was received into the Academy of Sciences. His works are *Historiarum et Observationum Medico-Physicarum, centura prima et secunda*, 8vo.; *Bibliotheca Chæmica*, 12mo; *De Vero Telescopii Inventore*, 4to; *Tresor des Recherches et Antiquités Gauloises*, 4to.; *Poème à la Louange de l'Imprimerie*; *Carmina in laudem Regis, Reginae, et Cardinalis Mazarini*, 4to.; *Auctarium ad vitam Peirescii*, 4to.; *Commentum in Antiquum Philosophum Syrum. Hortus seu Armarum Simplicium Plantarum et Animalium ad Artem Medicam Spectantium*, 8vo.; *De Curationibus Sympatheticis*, 4to.; *Discours Prouvant la Pluralité des Mondes*.

BORELLI (John Alphonsus), was born at Castel Nuovo, Naples, on the 28th of January 1608. He was educated at Rome, where he made such rapid progress under the care of *Castelli*, and acquired so great a reputation, that he was invited to teach mathematics at Messina in Sicily. In 1647 and 1648, a fever having broken out in that island, *Borelli* paid particular attention to the disease, and published a treatise upon it at Cosenza, entitled, *Delle Ragioni delle Febri Maligni di Sicilia*, 12mo, 1649. He now removed to Pisa, where he was appointed professor of philosophy and mathematics. He was also honored with a seat in the Academy del Cimento. He now applied his mathematical knowledge to explain the functions of the animal economy; and, between the years 1659 and 1664, wrote numerous letters to *Malpighi* upon that subject. But being engaged in the revolt of Messina, he was obliged to quit Sicily and retire to Rome, where he lived under the patronage of queen Christina. He was under the necessity, however, of teaching mathematics in the pious schools in the convent of St. Pantaleon, where he died of a pleurisy on the 31st December 1679, in the seventy-second year of his age. *Borelli* corresponded with the leading philosophers of his time, particularly with Mr. John Collins, Oldenburgh, Dr. Wallis, Mr. Boyle, and *Malpighi*. His principal writings are: 1. *Delle Ragioni delle Febri Maligni di Sicilia*, Cosenza, 1649, 12mo. 2. *Della Cause delle*

Febri Maligni. Pisa, 1658, 4to. 3. Apollonii Pergæi Conicorum, lib. v. vi. et vii, Florent. 1661, fol. 4. De Renum usu Judicium, accompanied by Bellini's treatise De Structura Renum. Strasburg, 1664, 8vo. 5. Theoriæ Medicorum Planetarum ex Causis Physicis Deductæ, Florent. 1666, 4to. 6. De vi Percussionis, Bologna, 1667, 4to. 7. Euclides Restitutus. Pisa, 1668, 4to. 8. Osservazione intorna alla vista in eguali degli Occi, published in the Journal of Rome for 1669. 9. De Motionibus Naturalibus de Gravitæ Pendentibus. Regio Julio, 1670, 4to. 10. Meteorologia Ætnæ, Regio Julio, 1670, 4to. 11. Osservazione dell' Ecclissi Lunari 11 Genaro 1675, published in the Journal of Rome for 1675, p. 34. 12. Elementa Conica Apollonii Pergæi, et Archimedis Opera, nova et breviori methodo demonstrata. This work was printed at Rome, in 1679, in 12mo., at the end of the third edition of his Euclides Restitutus. 13. De Motu Animalium, published after his death.

BORER, an instrument used to make holes in various substances with. There is a very curious and simple machine of this kind used in America, consisting of the common centre-bit of the carpenters, followed by a wide flat thread-screw, hammered up from a plate of iron, or steel: it is said that it is used to bore holes, several feet in length, and it does it with this peculiar advantage, that it clears out the cuttings, without being itself drawn out, as is done with the auger, the gimblet, and other similar tools. Whether this advantage would be as completely obtained in boring perpendicularly down, to considerable depths, is not so certain, but that it would be completely effected in horizontal, or slightly inclined holes, will appear beyond a doubt, by the following description of its mode of working: the cuttings or shavings formed by the tool, are partly by their own weight, and partly by friction against the internal cylindrical surface, prevented from revolving along with the screw, the consequence is, that they are pressed against its thread, and slide along it towards the handle; now as this motion, or shifting of the thread, is quicker than the progress of boring, by which the whole tool is carried forwards, the cuttings must come out with a speed nearly equal to the difference between these two motions. Mr. Eccleston produced to the Society of Arts, an instrument for boring peat, which consists of a cylindrical body, six inches in diameter, and about two feet long; one half of the mouth is sharpened like a carpenter's auger, and at the other end there is an aperture (through which the peat, introduced by the action of boring, is drawn out), over which are some slips of iron, joined at the top, and terminated by a screw, by which it is connected with the common boring-rod.

BORG-BREGE. See **BORGI FRACTURA**.

BORGE, or **BORGHA**, in Saxon law, a pledge of security for another's keeping the peace, and conforming to the laws.

BORGE-FORDS, or **BORGAN-FIORDER**, in geography, a district of Iceland, once famous for its warm baths, erected by Snorra Sturleson, an historian of the thirteenth century. They were so

large and well planned, that a hundred persons could bathe in them at one time. Near them was a remarkable one which received the name of cross bath, from the inhabitants of the western part of the island being baptised in it, A. D. 1000.

BORGHETTO, a town of Italy, in the Veronese, near which Buonaparte obtained a victory over the Austrians, in June 1796.

BORGIA (Cardinal), See **ALEXANDER VI.**

BORGIA (Cæsar), natural son of pope Alexander IV. was a brave general, but a most abandoned villain. See **ITALY**. It is incredible what numbers he caused to be taken off by poison, or by the sword. Assassins were constantly kept in pay by him at Rome, for removing all who were obnoxious or inconvenient to him. He experienced various turns of fortune, being sometimes very prosperous, sometimes the reverse. He narrowly escaped dying by poison in 1503; for having concerted with his father a design of poisoning nine newly created cardinals at once, for the sake of possessing their property, the poisoned wine, destined for the purpose, was by mistake brought to and drank by themselves. The pope died of it, but Cæsar, by the vigor of his youth, and the force of antidotes, after many struggles, recovered. This, however, was only to outlive his fortune and grandeur, to see himself depressed, and his enemies exalted; for he was soon after divested of all his acquisitions, and sent a prisoner to Spain. He escaped, however, and got safe to king John of Navarre, his brother-in-law, who was then at war with his subjects. Cæsar served as a volunteer, and was killed in 1507. Machiavel, in his celebrated book, entitled *The Prince*, proposes this villain as a pattern to all princes, who would act the part of wise and politic tyrants.

BORGI FRACTURA, **BORG BREGE**, or **BORGMBREACH**, in ancient law writers, denotes a breaking of the pledge or security given by the members of tithings for the behaviour of each other.

BORGO DI SAN SEPOLCRO, a town of Italy, in Urbino, on the borders of Tuscany. It is seated near the source of the Tiber, fifty miles east of Florence. On the 30th of Sept. 1789, this town was much damaged by an earthquake, which destroyed many houses and palaces, with part of the cathedral, some churches, and a village five miles distant. About 1000 persons perished.

BORGOGNONE IL, a celebrated painter, whose real name was Giacomo Cortese, but he is commonly called Borgognone, from the country where he was born, about 1605. He was much admired for his grand manner of painting battles. He had been an officer of rank in the army. Towards the close of his life he retired to the Jesuits' convent in Rome, where he is said to have taken sanctuary to get rid of a bad wife, but happily surviving her, he lived in great esteem and honor till 1675.

BORING, in practical mechanics, may describe a variety of operations by which either the earth, solid bodies, or blocks, have a given portion excavated, or by which the internal surfaces of cylindrical vessels are made true and smooth. The common functions of the carpenter's gimblet,

drill, or bow, might therefore be expressed by this term; but it has been more particularly applied of late to the action of those machines which have been invented for finishing the cylinders of steam-engines, blowing-machines, pump-barrels, &c., and for boring the earth.

For BORING OF CANNON, see CANNON.

BORING OF CYLINDERS for steam-engines, blowing-machines, the barrels of large pumps, &c. is generally performed by steel-cutters, which describe a cylindrical course on the inside surface of the cylinder already cast, while it remains fixed. Steam-engine cylinders were first made of brass, or copper and tin mixed; but cast-iron has of late become the universal material. The cutters are fixed in what is called the cutter-head, which turns with the boring bar, while it is impelled round the interior surface of the cylinder by a rack, with a pinion moved by a lever and weight. A hollow tube of cast-iron is generally the axis or boring-bar employed, having a groove through it, the length of which is proportioned to the length of the cylinder. The cutter-head is composed of two cast-iron rings, the first of which is accurately fitted on the bar, which is made truly cylindrical, so that this ring may slide along it; the second ring is fixed round the first by wedges; and on its circumference are eight notches to receive the steel-cutters, also fixed in by wedges. The first ring is fixed on the bar, so as to make the whole cutter-head move round with it by means of two smaller bars, which go through notches in that ring, and pass through the groove of the boring-bar. These small bars have each a round hole in the part which passes through the geometrical axis of the boring-bar; through these holes there passes a bolt, which forms the end of the rack; a key is put through the end of the bolt, which prevents the rack from being drawn back by the lever and weight; and by this means the rack, impelled by the lever and weight, pushes forward the cutter-head, which is at the same time revolving with the boring-bar: the connexion of the rack and cutter-head being round, and in the axis of motion, the rack is thereby free from the circular motion of the cutter-head. This boring-bar was invented in the works of Mr. Wilkinson, at the time when accurately bored cylinders came to be required in consequence of Mr. Watt's improvements in the steam-engine. In the following machines the cutters advance by a train of wheels deriving their motion from the power that turns the boring-bar.

A patent was granted in 1799 to Mr. Murdoch of Redruth for an improved method of constructing steam-engines. He proposes to employ an endless screw for boring, turned by the moving power; this screw to work into a toothed wheel, whose axis carries the cutter-head. This method, he says, produces a more smooth and steady motion than the usual mode of fixing the boring-bar immediately on the axis turned by the moving power. Mr. Murdoch forms the cylinder and steam-case by casting them of one solid piece, and then boring a cylindrical interstice, by means of a tool made of a hollow cylinder of iron, with steel-cutters fixed to its edge, and acting like a trepan. The chambers of brass

pumps, whose diameter is small, are fixed within iron rings, by means of screws, in the same manner as described below in Mr. Murray's apparatus. The rings are made accurately cylindrical by turning; as is also the boring-bar. The boring-bar has four cross arms on its outer extremity, to one of which a handle is fixed, whereby a workman makes the boring-bar revolve. The cutter-head is made to advance along the boring-bar by a screw. See *Repertory of Arts*, Vol. XIII.

In 1802 Mr. Billingsley, of the Bowling Iron-works, near Bradford, constructed an apparatus in which the boring is performed perpendicularly. See *Repertory of Arts*, second series, Vol. II. p. 322. One object is, that the boring-dust may fall out, and not remain on one side of the cylinder, wearing the cutters; and in this way the cylinder may be bored through without changing the cutters. Another advantage proposed is, that the cylinder may be made more true, and not deviate from its cylindrical form by its own weight, a circumstance which is found to take place in large and slender cylinders when laid on their side. In this method the cylinder is fixed with screws by the flanges, where it is most capable of resistance, and the screws are disposed so as to press the cylinder equally all round. The operation, it is also contended, may be thus sooner performed, in consequence of less time being required to fix the cylinders, and no attendance being necessary to change the position of the bar on the axis of the pinion. The mechanism for propelling the cutters is as follows:—A leather strap passing over the boring-bar, communicates the revolving motion of the boring-bar to a wheel, which gives a slow motion by a train of wheels and pinions to an axis, bearing two pinions which work into two racks; these racks push the boring-head and cutters slowly forward on the boring-bar, at the same time that the boring-head is revolving with the boring-bar. The velocity with which it is required that the cutters shall advance, varies as the diameter of the cylinder varies, the moving power remaining the same; and, by altering the train of wheel-work, the cutters may be made to advance with any given velocity.

Our plate BORING, figs. 1, 2, 3, and 4, exhibits different views of a machine for boring cylinders, invented by Mr. Murray of Leeds. Fig. 1 is an elevation, and fig. 2 a plan, of the machine. W, fig. 1 and 2, is the spur wheel, deriving its motion from water or steam, and communicating a revolving motion to the boring-bar. The toothed wheel A, fig. 1, moves round with the boring bar, B, on which it is fixed; it gives motion through the wheels D and E, and to the screw S, whose threads act on the two racks, which racks are fixed to the cutter-head H, and revolve with it. The velocity with which the cutter-head is impelled along the cylinder, depends upon the number of threads of the screw in a given length, and on the proportions of the wheels A, C, D, and E, to each other. By varying the velocity of the screw, the cutter-head may be made to move in either direction, up or down the cylinder. F is a pinion, whose axis ends in a square, which may be wrought by a key so as to bring the cutter-head out of the

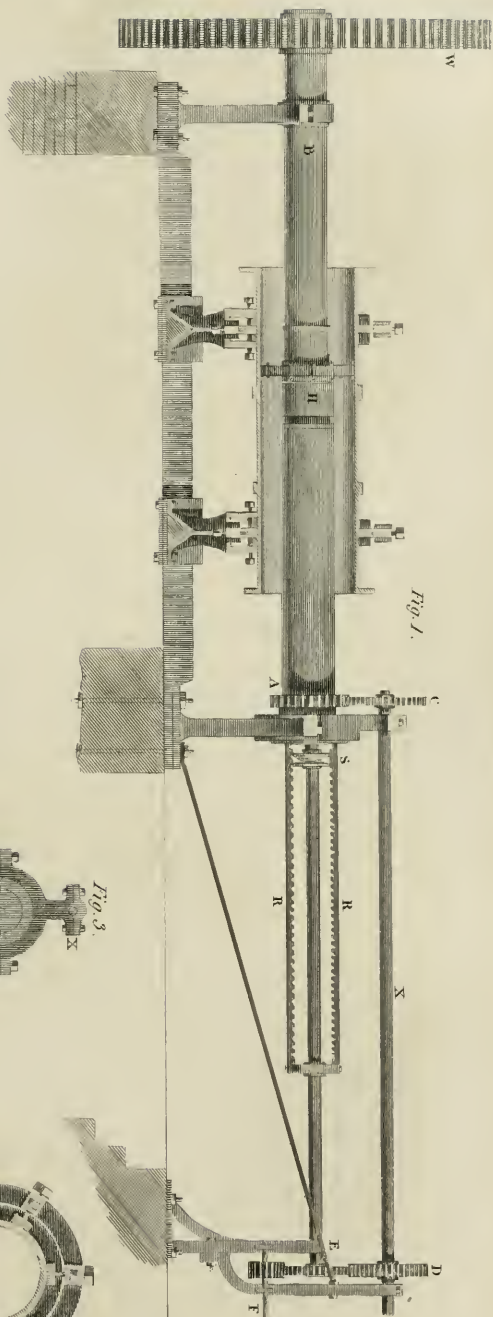


Fig. 1.

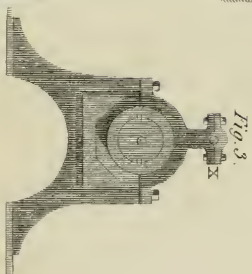


Fig. 3.

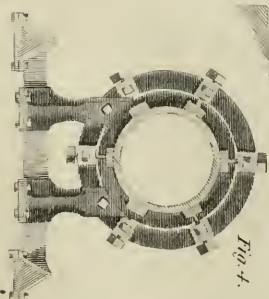


Fig. 4.

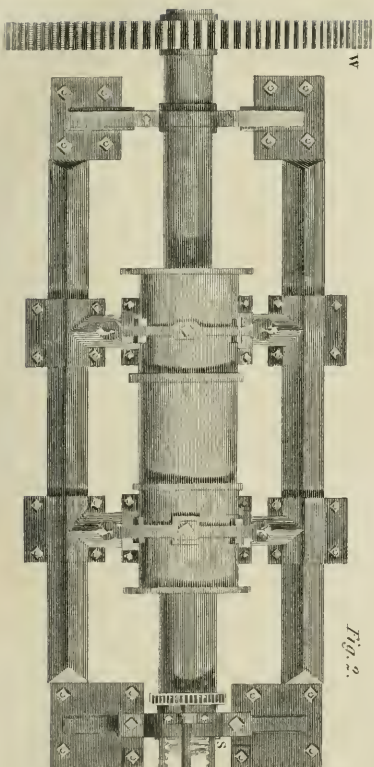
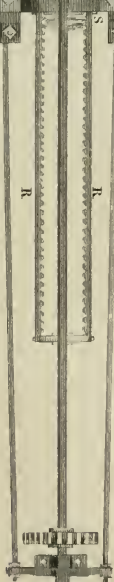
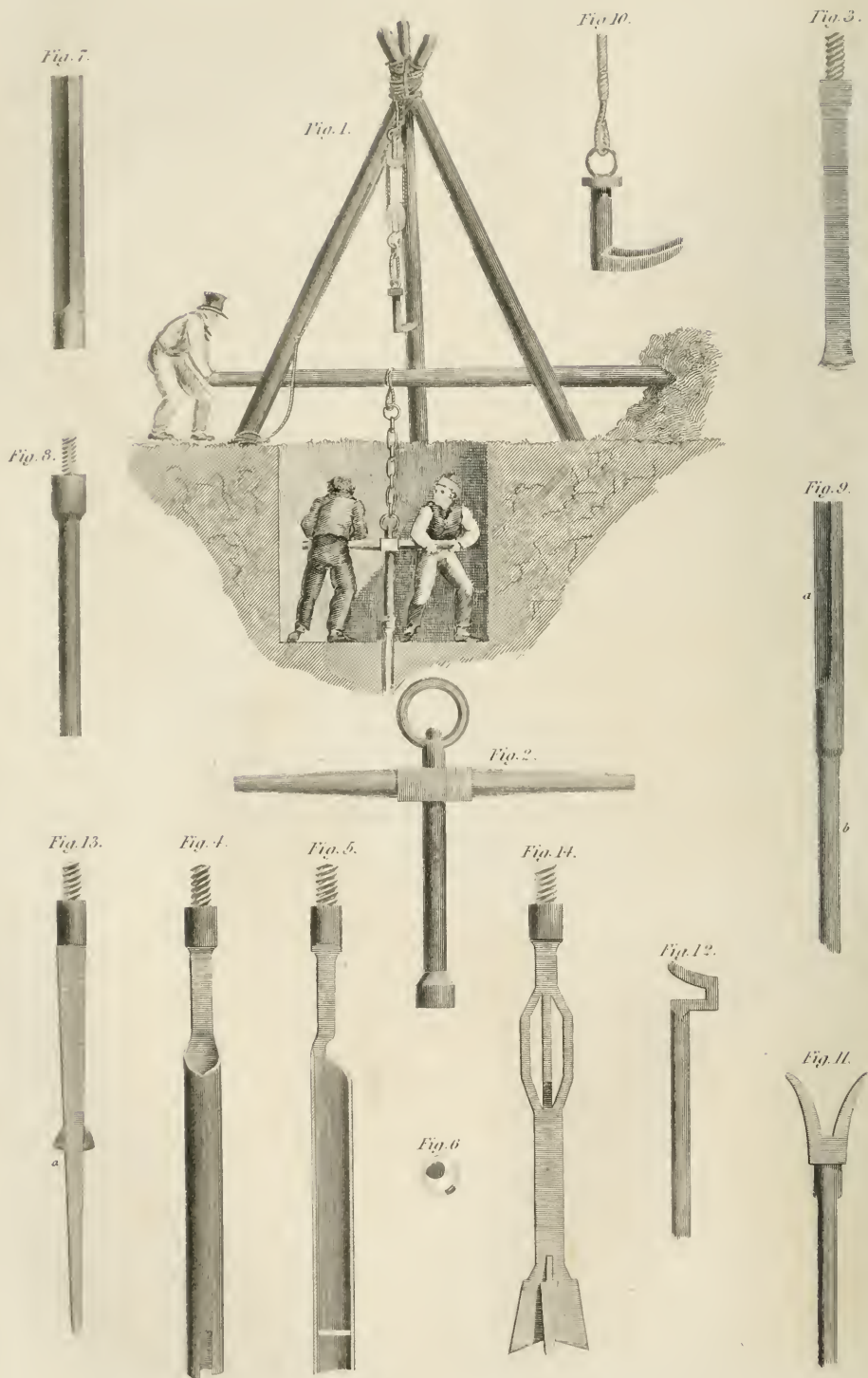


Fig. 2.





cylinder, or push it home by the hand when that is required. Screws, passing through two iron rings, fix the cylinder in its bed, as represented in fig. 4. Fig. 3. is a transverse elevation of the collar, in which the end of the bar at A, fig. 1., turns; X is the gudgeon in which the spindle X, fig. 1., turns. In fig. 3. are also seen the two apertures through which the two racks pass. By this machine the flanges are turned truly plane, so that the lid of the cylinder may fit on exactly.

BORING THE BARRELS OF MUSKETS AND SMALL ARMS is generally conducted by means of a boring bar, turned by the same mill that turns the grinding stones for polishing the outside; square pieces of iron being first forged of a proper length and breadth; and the two long edges, which had been previously thinned off, welded together on a mandril. The barrel thus formed, is fixed by a screw on a carriage that turns the grinding stones for polishing the outside; square pieces of iron being first forged of a proper length and breadth; and the two long edges, which had been previously thinned off, welded together on a mandril. The barrel thus formed, is fixed by a screw on a carriage that moves in iron grooves, and is carried towards the boring-bar by a rope which passes over pulleys, and has a weight hanging from its end. The barrels are cooled while boring by means of water from a trough. After the barrel is bored, the interior surface of the bore is polished by the action of the boring-bar. During the operation, an iron gauge of an inch and a half in length, and of a diameter equal to the proposed diameter of the musket, is made frequent use of to ascertain the progress made; and the barrel is occasionally held to the light and looked through. If it contains a flaw, the place of the flaw is marked on the outside, and the barrel is put on the mandril again, for the defective place to be heated and hammered over again; a gauge is also used to see whether the barrel be crooked or straight. When it has no flaws, and the boring has proceeded satisfactorily, the barrel is taken to the grinding mill, and undergoes the operation of outside polishing. Rifle-barrels are placed on a bench twelve feet long. The boring-bar is guided by a matrix or female-screw, whose spiral curve is similar to the spiral of the rifles intended to be made; the boring-bar being fixed to a male-screw, which passes through the female, and fits it exactly. The female-screw, having four threads and as many furrows, is also fixed to the bench. These threads, in general, return to the point of the circumference from which they set out, or make a revolution in the length of about two feet. The male-screw has at one end an iron bar attached to it, by which it is put in motion; at the other extremity is fixed the boring-bar, which passes through the barrel to be rifled; the boring-bar has a cutter fixed in it, which forms a spiral furrow in the barrel when the screw is turned by the handle. The number of spiral threads in rifle-barrels is from three to twelve. When the threads and furrows are required to be in straight lines, a straight lined matrix is of course used. In order that the threads may be placed at an equal number of degrees of the circumference from each other, the bench is furnished with a brass plate, divided in the same way as the plate of the machine for cutting the teeth of clock-wheels.

BORING OF PORTLAND STONE, so as to form pipes, was proposed by Sir George Wright in 1805. His method is as follows:—A hole is drilled through the block of stone, in which a

long iron bolt is inserted for the saw to work round as a centre; this bolt forms the axis of the cylinder which is to be taken out, and projects considerably beyond the block at both ends. Another hole is drilled in the intended circumference; into this the blade of the saw is introduced. The frame of the saw is so disposed, that, when it is wrought to and fro, the blade is guided by means of the centre bolt so as to describe the intended cylindrical circumference. In this way a solid cylindrical core of stone is detached, and a cylindrical cavity or pipe left in the block. Or the saw may be made to describe a circle without drilling a hole in the centre, by drilling a hole in the circumference, and fixing on the surface of the stone two metallic concentric rings, so that the hole shall be included in the interstice between the rings. The saw is then introduced into the hole, and, being worked, it cuts in the circular path formed by the interstice of the rings. See *Repertory of Arts*, second series, Vol. VIII.

Mr. Murdoch's method, for which he obtained a patent in 1810, is perhaps preferable. He employs a cylindrical saw to form the pipe. A plug of wood is inserted in the centre of the intended pipe; this receives the lower end of a vertical spindle, longer than the intended pipe: the spindle is square, and has sockets sliding on it. On the upper part of the spindle is a pulley or toothed-wheel, by which the spindle is made to revolve. Near the lower end of the spindle is a wheel, having a circumference like a hoop, three inches broad. The diameter of this wheel is somewhat less than that of the pipe to be bored. It regulates the motion, and fits in the inside of a tube of metal attached to the spindle. The diameter of the tube is nearly equal to that of the intended pipe; its length is greater by two feet. On the lower edge of the tube is a rim of metal, so much thicker than the tube, that the groove cut in the stone by the rim may admit the tube to move freely in it. This rim has an edge like that of a stone-cutter's saw, and performs here the office of a saw. The tube is caused to make a reciprocating circular motion round the spindle. There is a cistern placed above the tube, for the purpose of conveying a mixture of sand and water into the cylindrical groove formed in the stone, whilst the machine is working. Pipes, made of stone in the above way, have been tried for conveying water in and about the streets of London. They were joined by means of Parker's cement, as the best material for forming the joints; but were generally cracked by the motion of carriages above, and allowed the water to escape.

BORING FOR WATER has been lately introduced, in and near the metropolis, for the purpose of obtaining large supplies of water without the sinking of a well. We have witnessed its success with great satisfaction, and suppose that our readers will be gratified with the following description of the process from the *London Journal of Science*, No. xxxiii.

The first operation is to dig a circular hole, about six or eight feet deep, and five or six feet wide, in the centre of which the boring is to be conducted, as shown in our plate BORING FOR WATER. The nandle, fig. 2, having a female

screw in the bottom of its iron shank, a wooden bar or rail passing through the socket of the shank, and a ring at top, is the instrument to which all the boring implements are to be attached. A chisel, fig. 3, is first employed, and connected to this handle by its screw at top. If the ground is tolerably soft, the weight of the two workmen, bearing upon the cross-bar and occasionally forcing it round, will soon cause the chisel to penetrate; but if the ground is hard or strong, the workmen strike the chisel down with repeated blows, so as to peck their way. The labor is often considerably reduced, by means of an elastic wooden pole, placed horizontally over the scene of their operations, from which a chain is brought down, and attached to the ring of the handle. This pole is usually made fast at one end as a fulcrum, by being set into a heap of heavy loose stones; at the other end the laborer gives it a slight up and down vibrating motion, corresponding to the beating motion of the workmen below, by which means the elasticity of the pole in rising lifts the handle and pecker. When the hole has been opened by a chisel, as far as its length will permit, that instrument is withdrawn, and a sort of cylindrical auger, fig. 4, attached to the handle, fig. 2, for the purpose of drawing up the dirt or broken stones which have been disturbed by the chisel. A section of this auger is shown in fig. 5, by which the internal valve will be seen. The auger being introduced into the hole, and turned round by the workmen, the dirt or broken stones will pass through the aperture at bottom, shown at fig. 6, and fill the cylinder, which is then drawn up and discharged at the top of the auger, the valve preventing its escape at bottom.

To penetrate deeper into the ground, an iron rod, fig. 7, is now to be attached to the chisel, fig. 3, by screwing on to its upper end, and the rod is also fastened to the handle, fig. 2, by screwing into its socket. The chisel having thus become lengthened, by the addition of the rod, it is again introduced into the hole, and the operation of pecking, or forcing it down, is carried on by the workmen as before. When the ground has been thus perforated, as far as the chisel and its rod will reach, they must be withdrawn, in order again to introduce the auger, fig. 4, to collect and bring up the rubbish, which is done by attaching it to the iron rod in place of the chisel. Thus, as the hole becomes deepened, other lengths of iron rods are added, by connecting them together, as figs. 7, 8. The necessity of thus frequently withdrawing the rods from the hole, renders it extremely inconvenient, if not impossible, to raise them by hand. A tripodal standard is therefore generally constructed, by three scaffolding poles tied together, over the hole, as shown in the plate, from the centre of which a wheel and axle, or a pair of pulley blocks, are suspended, for the purpose of hauling up the rods, and from which hangs the fork, fig. 10. This fork is to be brought down under the shoulder, near the top of each rod, and made fast to it by passing a pin through two little holes in the claws. The rods are thus drawn up, about seven feet at a time, which is the usual distance between each joint, and at every haul a

fork, fig. 11, is laid horizontally over the hole, with the shoulders of the lower rod resting between its claws, by which means the rods are prevented from sinking down into the bore again, while the upper length is unscrewed and removed. In attaching and detaching these lengths of rod, a wrench, fig. 12, is employed, by which they are turned round, and the screws forced up to their bearing. The boring is sometimes performed for the first sixty or a hundred feet, by a chisel of two inches and a half wide, and cleared out by a gouge of two and a quarter diameter, and then the hole is widened by a tool, such as shown at fig. 13. This is merely a chisel, as fig. 3, four inches wide, but with a guide, *a*, put on at its lower part, for the purpose of keeping it in a perpendicular direction; the lower part is not intended to peck, but to pass down the hole previously made, while the sides of the chisel operate in enlarging the hole to four inches. The process, however, is generally performed at one operation, by a chisel of four inches wide, as fig. 3, and a gouge of three inches and three quarters, as fig. 4. The most unpleasant circumstance attendant upon this business is the occasional breaking of a rod into the hole, which sometimes creates a delay of many days, and an incalculable labor in drawing up the lower portion.

Having obtained water in the quantity desired, the hole is dressed or finished in this operation, by passing down it the diamond chisel, fig. 14; this is to make the sides smooth previously to putting in the pipe. This chisel is attached to rods and to the handle, as before described, and in its descent the workmen continually walk round, by which the hole is made smooth and cylindrical. And now, in order to keep it pure and uncontaminated with mineral springs, loose earth, &c. the hole is cased for a considerable depth with a metallic pipe of tin or copper, about a quarter of an inch smaller than the bore; each length being let down, is held by a shoulder resting in a fork, while another length is soldered to it, and so on. We have seen a beautiful stream of water thus obtained from a depth of 320 feet, and rise above the ground constantly to a height of forty feet. It then formed a first moving power in the machinery of a brewery. From the depth of 280 feet was brought up the tooth of an unknown animal, between the size of that of the largest ass and that of a horse.

BORING OF WOODEN PIPES is performed by means of spoon-formed augers, beginning with one of small diameter, and proceeding to employ successively others of larger diameter. Those used for conveying water in London are generally made of elm, and bored out of one trunk. When a tree is to be bored, it is fixed on a carriage, with a rack on the under part. This fits into a pinion, whose axis passes through gudgeons on a fixed frame. On the axis of the pinion is a ratchet wheel, moved by two catches, which derive their motion from the wind or water power that turns the auger; and the pinion is moved in a direction that brings the tree towards the auger. The apparatus is the same as the one employed in saw-mills. The tree is made to advance by ropes, which pass over a windlass wrought by men, whilst the auger is turned by a horse-mill.

Wooden pipes are also frequently bored by an auger having at its outer end a wooden drift or handle, which is put in motion by the workman. The trees are placed on tressels, and there are also tressels of a convenient height that support the auger; there is also a lathe to turn one end of the tree conical, so as to fit into a conical cavity in the end of the adjoining tree, and thus form a joint water-tight. The end of the tree, which receives the adjoining pipe within it, has a surface at right angles to the axis of the pipe. Into this surface is driven an iron hoop, whose diameter is some inches greater than the diameter of the aperture of the pipe. This prevents the tree from splitting when the conical end of the next tree is driven home. When the tree is crooked, a bore is driven in from each end, and the two bores meet, forming an angle. An auger, whose stalk is formed spirally for some way up, is figured in Bailey's *Machines of the Society of Arts*. The object of this is that the chips may be delivered without taking the auger out of the hole. A patent was granted in 1796 to Mr. Howell of Oswestry, for boring wooden pipes by a hollow cylinder, made of thin plates of iron, about an inch less in diameter than the hole to be bored. To one end of this cylinder is fixed a flange about a quarter of an inch in breadth, and one part of this flange is to be divided, so that, being of steel, a cutter is formed thereby. The object of this is to bore out a solid cylinder of wood, capable of being converted into a smaller pipe, or of being applied to some other use in carpentry. This kind of borer is like the trepan, which is a hollow cylinder of steel, saw-toothed on the edge, and, when made to revolve rapidly on its axis, in the hand of the surgeon, it saws or bores out circular pieces of the flat bones of the head. See *Repertory of Arts*, vol. IX.

BORING, in mineralogy, a method of piercing the earth with scooping irons, which, being drawn back at proper times, bring up with them samples of the different strata through which they have passed; by the examination of which the skilful mineralogist will be able to guess whereabouts a vein of ore may be, or whether it will be worth while to open a mine. It is also a practice employed by the mineralogist to discover the different strata which lie beneath the surface of the earth, by sinkers to form wells and pits, or to tap springs, so as to draw off the water that lodges in their neighbourhood; in the last case, it is performed in the bottom of ditches, or drains previously made.

BORIQUEN, or **CRAB-ISLAND**, one of the Carribee islands, in North America, five miles south-west of Porto Rico. The English formerly had a settlement there, but were driven away by the Spaniards. Long. 66° W., lat. 18° N.

BORISTHENES, in ancient geography, the largest river of Sarmatia Europea, described by Mela and Herodotus, as the most pleasant of all the rivers of Scythia, calmer than all of them in its course, and very agreeable to drink: it fed very rich pastures, it is added, and produced large fish of the best flavor, and without bones; rising from springs unknown, it comes a great way, its course is a distance of forty days, and so far it is navigable. It is now called the Dneiper or Nieper.

BORITHI, in botany, an herb thought to be the kali or saltwort. In Jer. ii. 22, it is translated nitre.

BORJA, a town of Arragon, in Spain, with three parish churches, five convents, and an hospital. It lies near Monte Cayo, and in one of the most agreeable spots of the province. Here sprung the family of Borja or Borgia, and the notorious pope Alexander VI. It is the capital of a district of the same name, which contains twenty-seven villages and hamlets, with a population of 3000. The environs of the town abound in wine, flax, and wool. Twenty-four miles north of Calatayud, and thirty-four W. N. W. of Saragossa. Long. $1^{\circ} 34'$ W., lat. $41^{\circ} 50'$ N.

BORJA, **SAN FRANCISCO DE**, the capital city of the province of Mainas, the kingdom of Quito, in South America. It is situated on the Pastaza, which falls into the Amazons, in long. $76^{\circ} 24'$ W., lat. $4^{\circ} 28'$ S.

BORJA (St.), a missionary settlement of South America, in the province of Moxos, 100 miles north-west of Trinidad. There are two other missionary settlements of the same name, one on the river Uruguay, in lat. $28^{\circ} 39' 51''$ S., long. $57^{\circ} 56'$ W.

BORKUM, an island on the coast of East Friesland, in the kingdom of Hanover, situated between the mouths of the East and West Ems. It is included in the bailiwick of Greetsz, and so low in the middle, that at high water it is separated into two. The whole island is in circuit about twelve miles. It has a governor, a minister of the Calvinistic faith, and a school-master. The inhabitants are for the most part sea-faring people. The rest of the population rear cattle, and make considerable gains from shipwrecks.

BORLASE (Edmund), M. D. an English writer of the seventeenth century, was the son of Sir John Borlase, one of the Lords Justices of Ireland in 1643. He studied at Dublin, and afterwards at Leyden, where he took his degree of M. D. He afterwards practised physic with great success in Chester. He wrote, 1. *Latham Spaw in Lancashire*, 8vo. 2. *The reduction of Ireland to the Crown of England*. 3. *The History of the Irish Rebellion*. 4. *Brief Reflections on the Earl of Castlehaven's Memoirs*, &c. He died in 1682.

BORLASE (William), a very learned antiquarian, of an ancient family in Cornwall, was born at Pendeen, in 1695-6. He studied at Oxford, and in 1718 took his degree of M. A. In 1720 he was ordained a priest, and in 1722 made rector of Ludgvan in Cornwall. In 1732 lord chancellor King presented him to the vicarage of St. Just, his native parish. Finding that the copper works of Ludgvan abounded with mineral and metallic fossils, he collected them from time to time, and thence was led to study at large the natural history of his native country. Being also struck with the numerous monuments of antiquity that are to be met with in Cornwall, he determined to gain as accurate an acquaintance as possible with Druidical learning, and with the religion and customs of the ancient Britons. In 1750 he was admitted F. R. S. and, in 1753, published in folio, at Oxford, his *Antiquities of Cornwall*, a second edition of which was published at Lon-

don, in 1769. His next publication was, *Observations on the Ancient and Present State of the Islands of Scilly, and their Importance to the Trade of Great Britain*; Oxf. 1756, 4to. In 1758 came out his *Natural History of Cornwall*, Oxford, folio. He sent a variety of fossils and remains of antiquity, to be deposited in the Ashmolean museum, for which he received the thanks of the university in 1758, and in March 1766 the degree of LL. D. He married in 1724, and died in 1772, aged seventy-seven, leaving two sons. Among his other literary connexions, was Mr. Pope; and there is still existing a large collection of letters written by that poet to Dr. Borlase. He furnished Pope with many of the fossils, which adorned his grotto at Twickenham, where his name, in capitals, was long seen. On receipt of his present, Pope wrote to him, 'I am much obliged to you for your valuable collection of Cornish diamonds; I have placed them where they may best represent yourself, in a shade but shining.'

BORN, *pass.*, derived from the word *To bear*, in the sense of bringing forth; as, my mother bore me twenty years ago; or, I was born twenty years ago. It is usually employed in relation to circumstances: as, he was born a prince; he was born to greatness.

Amongst those knights there were three brethren bold,

Three bolder brethren never were *yborne*;
Borne of one mother in one happy mould,
Borne at one burden in one happie morne;
 Thrice happie mother! and thrice happie morne!
 That bore three such, three such not to be fond.

Spenser.

Be bloody, bold, and resolute; laugh to scorn
 The power of man; for none of woman *born*
 Shall harm Macbeth. *Shakspeare.*

When we are *born*, we cry, that we are come
 To this great stage of fools. *Id.*

For nature's law with fruitless sorrow mourn,
 But die, O mortal man! for thou wast *born*. *Prior.*

Two rising crests his royal head adorn;
Born from a god, himself to godhead *born*. *Dryden.*

I was *born* to a good estate, although it now turn-
 eth to little account. *Swift.*

In stress of weather most, some sink outright;
 O'er them, and o'er their names, the billows close,
 To-morrow knows not they were ever *born*.

Young's Night Thoughts.

To what gulphs
 A single deviation from the track
 Of human duties leads even those who claim
 The homage of mankind as their *born* due,
 And find it, till they forfeit it themselves. *Byron.*

What is here

Which look like death in life, and speak like things
Born ere this dying world? They come like clouds.

Id. Heaven and Earth.

BORN (Inigo, baron), the German mineralogist, was born of a noble family at Carlsburg, in Transylvania on the 26th of December 1742. He studied at an early age in the college of the Jesuits, Vienna, who, perceiving his talents, prevailed with him to enter into the order. From Vienna he went to Prague to study the law. Having completed his education, he set out on a tour through Hungary, part of Germany, Holland, the Netherlands, and France, and upon his re-

turn to Prague devoted himself to sciences connected with natural history and mining. He was received in 1770 into the department of the mines and mint. In June 1770 he set out on a mineralogical tour through Transylvania, and Hungary, of which he gave an account in a series of letters addressed to the celebrated Ferber, who published them in 1774. He here complains of his ignorance of botany. This work was translated from the German by R. E. Raspe, and published at London, in 1777. In the beginning of August 1770 Born had nearly lost his life, by descending into a mine, and brought upon him a disease that embittered the remainder of his days. 'To explain the common firing of *Felso-Banya*,' says he, 'and the great effects produced by so small an expense of wood, I visited the great mine when the fire was hardly burnt down, and when the mine was still filled with smoke. An accident made me tarry somewhat longer in the shaft, by which the smoke went off. In short, I lost my senses, and fifteen hours after I was restored to myself by blisters and other applications. My lips were swoln, my eyes ran with blood, and my limbs in general lamed. Without the assistance of a skilful young physician at Nagy-Banya, and the great care of the upper administration inspector, Baron Gerham, in whose house I lodge, you would have been deprived of your friend; and the question is still whether he is to be saved. A violent coughing, and acute pains in the loins, which alternately put me on the rack, are, I fear, more than sufficient to destroy this thinly framed machine. If that should be the case, then my friend, I desire you to have my name at least inserted in the martyrology of naturalists.' He now travelled in a bad state of health from Nagy-Banya to Schemniz, where he arrived in the beginning of September; and in October set out for Vienna, for the purpose of obtaining medical advice. In 1771 he went to Prague, and was appointed counsellor of the royal mines in Bohemia. Here he published, *A Treatise Written by the Jesuit Poda on Mining Machinery*; and in 1772 his *Lithophylacium Borneanum*, or a catalogue of a collection of fossils, which he afterwards sold to the honorable Mr. Greville for £1000. In 1774 he was chosen a fellow of the Royal Society of London. In 1776 he was finally called to Vienna, by the empress Maria Theresa, to arrange and describe the Imperial cabinet of natural history; in consequence of which he published a magnificent work describing the shells in that cabinet; but the death of the empress prevented the progress of the undertaking. Joseph II. however, patronised our author, made him counsellor of the mines, and employed his talents in improving the processes for the extraction of metals. In 1786 he published his *Treatise on the Process of Amalgamation*. His next work was *An Arranged Catalogue of Mad. Raab's Collection of Fossils*, published in 1790. At the time of his death, he was engaged in writing *A History of the Reign of the Emperor Leopold II.*, and a *Treatise on Mineralogy*. This took place in August 1791. Baron Born was the founder in 1775 of a literary society at Prague, which has produced several volumes of memoirs. He was a member of the

society of illuminati, and zealous against the encroachments of the clergy and the monastic orders. He wrote a satirical work entitled *Monachologia*, in which he has parodied the classification and language of natural history, in a descriptive catalogue of the different orders of Monks. But his genius was ill adapted for satire, and some of his friends disclaim this work as his own composition.

BORNA, a town in the circle of Leipzig, and kingdom of Saxony, situated between two arms of the Wiehra, on the road from Leipzig to Altenburg. It contains 3200 inhabitants, who manufacture baracan, plush, woollen stuffs, and earthenware. In the neighbourhood is a marble quarry. Borna, being nearly burnt to the ground in 1750, has been since rebuilt in a much neater style. It is ten miles N.N.E. of Altenburg, and twelve S.S.E. of Leipzig.

BORNEO, BONA FORTUNA, or PULA KALAMANTIAN, as it is called by the Malays, is the greatest and most important of the Sunda islands, and was supposed, before the discovery of New Holland, to be the largest island in the world. On the north it has the Philippine islands; Java on the south; Sumatra on the west; and Celebes on the east. It extends from the fourth degree of south latitude to the eighth degree of north latitude, and from 109° to 119° E. longitude. It is about 780 miles in average length, and its breadth, which is nearly equal throughout, except towards the north, is about 720 miles. Its extreme length is 900 miles, and its circumference 3000 miles. It is formed by a central range of mountains declining towards the sea, and its extensive forests, and the deep verdure of its fields, preserve a perpetual freshness in the atmosphere. So that it is not exposed either to hot land winds, as the coast of Coromandel, nor to the violent heats which prevail in Calcutta and Bengal. The climate is indeed said to be unusually temperate for the latitude, but the island is, from its marshes and other causes, unhealthy for Europeans.

At the foot of the Crystal Mountains is a large lake, which gives rise to all the rivers of the island. Of these the principal are the Banjarmasin, Succatana, Lava, Sambas, and Borneo. The last is navigable far above the town of that name, for vessels of considerable burthen; the only difficulty is at the mouth, where the channel is narrow, and not above seventeen feet broad at high water.

The soil is fertile in a high degree, yet such is the indolence of the inhabitants, that they live in the most abject poverty. All the tropical fruits grow in perfection, besides several other species scarcely known anywhere else, particularly the madang, which resembles a large apple, and the balono, not unlike a large mango. We may also notice the kanari, a handsome tree bearing an oblong nut, the kernel of which, besides being extremely palatable, abounds in an excellent culinary oil. The sago palm (*metroxylon sago*) is not extensively cultivated in this island, although it is indigenous; and appears to require all the violence of an eastern monsoon to bring it to perfection. A tree which yields the best camphor, is also peculiar to this island and Sumatra. Mr. Colebrooke gave in the Asiatic

Researches, vol. xii. the first scientific description of it, and has named it *dryobalanops camphora*. It belongs to a different family from the laurel tribe, to which it was formerly ascribed, and is a native of plains not far distant from the coast. The camphor is found in a concrete state in the veins and fissures of the wood; so that the tree must be cut down in order to procure it. It sells for four times as much as camphora, the produce of the *laurus*, from Japan, i. e. about £4. 4s. per pound avoirdupois. The forests furnish the finest building timber; a black wood, the root of which is very precious; a fragrant eagle-wood, ebony, and sandal-wood; besides trees which yield a great quantity of pitch and resin. Pepper of various kinds has been reared in this island, chiefly by the Chinese; the most remarkable of which is the vatican. They fix in the ground a large stake, which supports the plant, and keeps the ground between the rows extremely clear; often thinning the leaves, that the clusters of pepper may be the more exposed to the sun. A single plant sometimes bears seventy, or even seventy-five clusters. Borneo produces likewise abundance of aromatic plants, cassia, camphires, benjamin, and wax. It is thought that spiceries would succeed well.

There are several peculiar animal productions here, particularly the oncas, a species of apes, whose body is white and black, and from whose entrails is extracted the most perfect bezoar. The ourang-outang is common in the forests; and in some of them there are whole families, or rather flocks, of red apes. An animal is likewise sometimes to be seen here, the fur of which is like that of the beaver. With the exception of the sparrow hawk, there is no bird in Borneo which resembles those of Europe. The plumage of many is beautiful beyond description; its parroquets, in particular, have attracted the admiration of travellers. Goats, swine, cows, horse, and buffaloes, are common.

Borneo is also rich in its mineral productions. The diamonds of this island have been thought preferable even to those of Hindostan; the most productive mines are those at Ambauwang, beyond Molucca, in the district of Banjar-massin, and at Landac and Pontiana. Diamonds are likewise fished up by divers in several of the rivers. The fishery is carried on chiefly in the months of January, April, July, and October. Four kinds are distinguished by the natives; the white, which they call *verna ambon*, or white water; the green, which are called *verna loud*; the yellow, named *verna sakkar*; and a kind between the yellow and the green, which bear the name of *verna bassi*. Many of them are found from four to twenty-four carats, and sometimes even thirty or forty carats. The total amount of diamonds found in a year seldom exceeds 600 carats.

Gold is nowhere in this neighbourhood so abundant as at Borneo. The greater part is an alluvial deposit, obtained by washing and sifting the sand or mud of rivers. The chief mining operations are carried on by the Chinese colonists, in the high lands between the rivers Pontiana and Sambas, and at Montradak, a village two days journey from the coast. It is an allu-

vial tract, occupied by a population of 36,000 Chinese, and intersected by numerous streams. They pay an annual tribute of about £900, and are nearly independent. They pay their laborers by monthly wages and their board. An experienced miner receives about twenty-four Spanish dollars a year. They labor very nearly twelve hours in the twenty-four. 'The mines,' as Mr. Crawford was informed, 'are longitudinal excavations, following the course of the mineral stratum; the ore being seldom more than five or six feet below the surface, and the veins usually ten feet and forty feet wide, making fifteen or sixteen feet a common depth for the whole mine.' The access is by means of wooden steps, and the ore is extracted and brought up by manual labour with spades and baskets. The largest mines are cleared by the Chinese water-wheel, and the ore is washed in a trough lined with bark. The produce of a mine worked by 200 laborers for thirty-five days, is about 320 bungkals, = 555½ oz. troy; the smallest amounts to 140 bungkals, = 243 oz. troy. The charges on such a mine for that time amount to 2104.78 Spanish dollars, and its produce may be estimated at 2000 bungkals of gold dust, worth 4848.00 Spanish dollars; the gross profit for the same time will be about 2743.22, = £1090. 16s. The annual produce of the mines of Sambas is about 88.342 oz. of pure gold.

Borneans rely on the Telinga settlers from Coromandel for assaying the precious metals, of which they are entirely ignorant.

Rich copper mines and plenty of load-stone are found at Mampava, at Pulo Bongorong, near Borneo Proper. In Sarawan, a country about sixty miles to the north of Sambas, veins of tin abound, as rich as those of Banca; but the works have been abandoned in consequence of the oppression of the government: there is also a valuable iron-mine in Matan, the metal of which is said to be equal to any in Sweden.

Boats of about five or six tons are employed on the coasts of this island with whole families on board, in fishing for the swallow, a sea slug, in seven and eight fathoms water. They also dive for it; the best, which is the black, being procured in deep water, and some of them being of the weight of half a pound. They are sold to the Chinese at four and five dollars per pecul (133½ pounds).

The native inhabitants occupy the interior, and are divided into tribes, speaking different dialects, and markedly distinguished by manners, customs, and religion, from the colonies of Malays and other conquerors of these tribes, who possess the coast. In the neighbourhood of Pontiana and Sambas they are called Dayers; at Benjar-masing, Biajús; at Burni, Moruts; and on the northern side of the island, Orang Idan. Their history it is impossible to trace. The last named tribes are fair and robust, the Dayer darker than the Malays. The whole are sunk in barbarism, and much afflicted with cutaneous disorders. They are said to acknowledge a Supreme Being, whom they worship under the name of Dewatta; and to whom, as the creator, preserver, and ruler of the universe, they utter prayers for prosperity in this world, and

happiness in the next. It is one of their religious tenets, we are told, that their fate in a future life depends on the number of human beings whom they shall have slain in their combats, or in their ordinary quarrels, and that their happiness or respectability will then be proportioned to the number of human skulls which they have in their possession. They are very courageous, but dangerous enemies; using poisoned arrows, which they shoot through a hollow tube. The skulls of their foes they preserve as trophies: they live by the chase, and despise agriculture or commerce. Some are said to wear gold front teeth, having pulled out the natural ones. According to the Malays, their ferocity is extreme, but the Portuguese missionaries give a very different character of them. The fact is, we are ignorant of them altogether, except through the suspicious channel of information conveyed by their oppressors.

The Malaysans of the coast are said to have migrated from Malacca, Johor, &c. in the fourteenth century, and certainly have exhibited no very virtuous political character for the imitation of their neighbours.

Borneo has been long divided into three distinct kingdoms: 1. Burni or Borneo Proper, from Tanjong Dato in lat. 3° 15' N. to Kanukungan in the Straits of Macassar, 1° 15' N. 2. Sukadana (Sukadunya, an earthly paradise), from Tanjong Dato to Tanjong Sambar, formerly belonging to the sultan of Bantam: and 3. Benjar-masing, from Bendar-masing, the usual port.

Borneo Proper, one of the most ancient states, includes a considerable portion of the western coast, and is bounded on the north by Maludu, and on the south by Pontiana. Its eastern limits are unknown. The soil here is fertile, and the inhabitants are principally a colony of Malays: the government is a feudal despotism, of which the seat is Burnai or Borneo, the capital of the island, built on a swamp. The houses are built on stages, fixed on piles, and accessible only by ladders: canals watering every street. The river is navigable above the town; but its entrance is obstructed as we have seen. Here the commerce is almost entirely in the hands of the Chinese. But the English have a factory, and carry on a small trade in piece-goods. The public markets are held sometimes in one place, and sometimes in another; and consist of a number of boats loaded with the necessities of life, and the various articles of merchandise, and crowds of purchasers rowing up and down the river.

Along this coast we find the states belonging to Sukadana, of which the first is Sambas, having a capital of the same name thirty miles inland, and on a navigable river. It is built on a similar foundation and soil to the town of Borneo. The rajah of Pontiana, in the neighbourhood, applied not long since to the English, then in possession of Batavia, for assistance against the piracies of the Sambaese, and in 1813 the rajah was driven into the interior, and his capital taken by storm. Mampava, a little to the south of Sambas, is the principal opium market on the coast. The mouth of the river is here also obstructed by a bar and some small islands.

Pontiana or Pontianak, is a powerful state on this side of Borneo, and the sovereign a prince who has of late much studied the welfare of his subjects. The capital stands on the river Lava. Landac, on the northern side of this river, has a town on the projecting brow of a hill, which is only accessible by a long flight of steps, and nearly enclosed by two rivers. This kingdom and Sukadana were ceded by the king of Bantam to the Dutch in 1778, and they kept possession of these districts till the middle of the late war.

Sukadana, the next territory on the western coast, was anciently the most powerful district in this part of Borneo. In 1786 it was attacked and destroyed by the Dutch, but has since been rebuilt. It does not appear to have been frequented by any modern Europeans; and an interval of more than two degrees of latitude and five of longitude, between Sukadana and the next state, appears a complete blank in the maps attached to Mr. Crawford's late work.

Banjar-masing, near the southernmost point of Borneo, is also placed upon a large and deep river, and, like most of the other streams of Borneo, obstructed at the mouth by a bar of sand. The population in 1780 was estimated at nearly 9000; many of the inhabitants are foreigners, particularly Chinese, who carry on a considerable trade. The residence of the sultan is at Martapura or Bumi-kin-chana, fifty or sixty miles up the river, and was built in 1771. This part of Borneo was often frequented by the Dutch for its pepper and valuable minerals. In the beginning of the last century the English also had a flourishing establishment at Banjar-masing; but the natives compelled the Company to abandon it. They attempted in 1766 to form a settlement at the northern extremity of Borneo, on the island of Balambangan, which was ceded to them by the king of Soloo, and stationed here a few Europeans, and a garrison of 300 soldiers, Europeans and blacks. In 1772 this garrison was greatly reduced by contagious diseases, and the fort which they had constructed, being badly fortified, was suddenly attacked, and the whole establishment destroyed. The English may now be said to be masters of all the northern coast of the island, which was delivered up to them by the Soloos. The places ceded are, Pandassan, Tampassook, Abia, Amboug, Salaman, Tawarran, Juannan, and Palatan, as far as Keemanee. In this extent of coast there are some good harbours; and it is much more populous than the country north of Pirate's Point, which extends a little beyond the spacious harbour of Sandakan, as far as Towson Abia.

BORNEUS, in ornithology, the long-tailed scarlet lory. Color red, quills and tail-feathers at the tips green, a blue spot on the wings, orbits fuscous. Inhabits India. Its bill is orange, orbits of the eyes bare of feathers, lower tail coverts red, bordered with blue.

BORNHOLM, an island in the Baltic sea, south-east of Schonen in Sweden, the most eastern of the Danish isles. It is 100 miles from the nearest part of Zealand, and forty from the coast of Sweden; thirty miles in length, and above eighteen in breadth. There is but one

considerable town, Rone or Ronnelly, with a great number of villages scattered over its surface. It is fertile and populous, and exports grain, sheep, and great quantities of salted salmon, to Copenhagen. The inhabitants near the coast are chiefly employed in fishery, while many of those in the interior are engaged in the marble and stone quarries, coal pits, and vitriol works. Bornholm was conquered by the Swedes in 1566; but, soon after, the inhabitants, under the conduct of Jens Roefords, voluntarily surrendered themselves to the king of Denmark. In 1678 a body of 5000 Swedish troops, in their passage from Pomerania to Sweden, being shipwrecked on this island, such of them as remained were made prisoners of war. The inhabitants defend the island by their own militia. The governor resides at Rone. This island was held by the British for a short time in 1809.

BORNII, in conchology, a species of tellina, transversely striated, bent on one side, with red rays.

BORNOU, or BERNU, called by the Arabs Berr Núh, i.e. the land of Noah, a powerful and extensive interior kingdom of Africa, is bounded on the north by Canem, on the east by Bagirmi, on the south by Lekvang, Tzelkba, Kalo and Szikkeh, and on the west by Canó or Cannó. It lies between the parallels of 10° and 20° north latitude, and 12° and 22° east longitude, as far as at present known. The Mussulman negroes consider it as one of the four great monarchies of the world; an opinion mentioned both to Mr. Lucas at Tripoli, and to Mr. Bowditch at Ashantee. The country consists of mountainous ranges, separated by plains of sand, amidst which but one stream of any magnitude seems to flow, the Halem Chád or Tsád, whose course is, according to the best accounts, from south-west to north-east, and which is probably the Jád of Burckhardt. It is called in Bagirmi Gambarro, according to Captain Lyon. A beautiful virgin was formerly thrown into it once a year. It overflows its banks in the rainy season, and a canal between it and the capital, to which it approaches within about four miles, conveys part of its waters into public reservoirs; it then assumes the appearance of a large lake, and hence perhaps the discordant accounts given by different travellers. The houses are supplied from wells. The soil near this stream is said to be a rich black mould highly fertile. Clay is found in other districts, and iron ore, and the mountains abound in stone. Two kinds of natron, white and red, are found in a remote desert. The climate is divided into the rainy season, which commences about the middle of April, with strong southerly and south-easterly winds, and continues till the latter end of October; the dry season then commences, and the heat is moderate with some degree of cold, mornings and evenings. Some parts of the country are covered with wood. Date palms, phoenix dactylifera, and dúmo cucifera thebaïca, are found in abundance. The Suldí is a large tree, the fruit of which yields an oil useful for curing rheumatism; the Englim, zutám, alfi, mitzki, mendádèh and kerrágeh are also large trees of which only the names are known. The kedeinah bears an eatable fruit,

from the kernel of which an oil is extracted, commonly used by the natives as a substitute for olive oil. Many trees produce an edible gum. The *hen-nā lawsonia inermis*, is also common, and its leaves are used as in Egypt and Arabia, for the purpose of giving a scarlet dye to the hair, nails, &c.

Kasab and kamfuli, two species of sorghum, are the grain produced. Writing reeds grow wild; and several sorts of beans, as well as tobacco, are cultivated. Slow spreading shrubs called *Lundú* have an edible root much used. It is dried in slices, and may then be kept from year to year. Another root of a tree, with whose name we are unacquainted, is prepared for use by boiling without any further process.

In the woods the monkey tribe abounds (fli), particularly the *simia hamadryas*, and another of a dusky red. It is called in the *Bernáwa* language *fli sumsu*, the red monkey, and is very mischievous. There are also many camelpards (*ziráfah*) in the woods, browsing on the young shoots. Here also are lions, foxes, wild dogs (sometimes eaten), buffaloes, some fine hippopotami and several kinds of antelopes. In the pastures, large flocks of sheep and goats are found. Birds of great beauty in point of plumage are also common, amongst which the *matzakeech*, a species of flamingo is distinguished. Ostriches are also hunted for their feathers. Bornou is much infested with dangerous loathsome reptiles, especially snakes and scorpions, centipedes and toads. The guinea worm is likewise common, and swarms of wild bees.

BORNOU the capital of the empire, is situated about 600 miles south-east of Morzouk, and 420 miles west of Sennaar. It is said to be a town of greater extent than Tripoli; but the houses are very irregularly placed, so that the spaces between them have no appearance of streets. Throughout the empire the same mode of building prevails. Four walls, enclosing a square, are first erected; within these, and parallel to them, are built four other walls; the intervening space is then divided into different apartments, and covered with a roof. Thus the space within the interior walls determines the size of the court; the space between the walls determines the width of the apartments; and the rooms are of the same height as the walls. On the outside of the house there is usually a second square or large yard, surrounded by a wall, for the accommodation of the cattle. In the construction of the walls, the following method is said to be invariably adopted: A trench being made for the foundation, is filled with dry and solid materials, rammed in with force, and levelled; over these is placed a layer of tempered mud or clay, in which are regularly fixed a proper number of stones. Thus, with alternate layers of clay and stones the wall is raised to the height of six or seven feet, when the workmen suspend its progress for a week, that it may have time to settle, and become compact; for which purpose they water it every day. The roofs are formed of branches of the palm tree, intermixed with brushwood, and covered with layers of earth, in such a manner as at first to be water proof, though the violence of the wind and rain generally destroys them before the end of the second year.

The whole building is white-washed with a species of chalk. The only articles of household furniture among the lower classes are mats covered with a sheep skin, upon which they sleep, an earthen pot, a pan of the same kind, two or three wooden dishes, two wooden bowls, an old carpet, a lamp for oil, and sometimes a copper kettle. Besides these, the richer inhabitants possess leathern cushions stuffed with wool, several brass and copper vessels, a handsome carpet, and a sort of candlestick; for instead of vegetable oil, which is used by the common people, they occasionally employ the light of candles. The capital is surrounded by a wall of fourteen feet in height, the foundations of which are from eight to ten feet deep, and which seems to be very firmly built. A ditch surrounds the whole; and in the wall there are four gates, opening to the east, west, north, and south, which are carefully shut every evening at sunset.

The palace is also surrounded with high walls, which form a kind of citadel, and is built in a corner of the town. Provisions are sold in public markets within the city; but for other articles a weekly market is held, as in Barbary, without the walls. There is a great mosque to which the sultan goes every Friday to prayers, and distributes larges ums in alms to the poor; provisions are also distributed to them: and strangers, who present themselves to his majesty on that occasion, are treated with the greatest condescension. He rides out once a year through a part of the city into the open country, arrayed in all his pomp and accompanied by his courtiers gorgeously attired. The multitudes that attend on this occasion, are such it is said as to grind to powder the trunks of trees over which they pass! The name of the prince who reigned here about twenty years ago, was Ahmed, ibn Hasan, ibn Mahmud, ibn Abd-er-rah Man ibn Taher. We know, from Leo Africanus, that this empire was existing at least four hundred years ago. The monarchy is elective but not hereditary: though the election is confined to the royal family. On the death of a sovereign, the privilege of choosing a successor among his sons, is conferred by the nation on three of the most distinguished men, or elders, and, during their deliberations, the princes are confined in separate chambers of the palace. When their choice is made, they proceed to the apartment of the sovereign elect, and conduct him in silence to the corpse of his father, which cannot be interred till this ceremony is passed, there they expatiate freely on the character of the departed, and conclude with this awful warning, 'you see before you the end of your mortal career; the eternal which succeeds to it will be miserable or happy, in proportion as your reign shall have proved a curse or a blessing to your people.' The new sovereign is then brought back to the palace, amidst the loud acclamations of the multitude, and is invested by the electors with all the slaves, and two-thirds of all the lands and cattle of his father; the remaining third being kept as a provision for the other children. But fatal dissensions in the royal family, are said to be the consequences of this mode of election. It often happens that the most popular or the most ambitious of the rejected princes, creates a

powerful party, and assured of foreign aid, prepares in secret the means of revolt. 'But stained with such kindred blood,' says the writer who has drawn up the account of Bornou from Mr. Lucas's communications, 'the sceptre of the victorious rebel is not lastingly secure—one revolution invites and facilitates another; and till the slaughter of the field, the sword of the executioner, or the knife of the assassin, has left him without a brother, the throne of the sovereign is seldom firmly established.'

The military force consists chiefly of cavalry, armed with the sabre, lance, pike, and bow, and defended by shields of hides. Fire-arms, though not entirely unknown to them, are too difficult to be procured for common use. When the sultan levies an army for the purpose of taking the field, he is said to have a custom of causing a date tree to be placed as a threshold to one of the gates of his capital, and commanding his horsemen to enter the town one by one, that the parting of the tree in the middle, when worn through by the trampling of the horses, may serve as a signal that the levy is complete. The taxes are paid by the poor in kind, by the rich in gold, or in male and female slaves. The ministers of religion, the learned and pilgrims, are exempt from taxation. A contribution for the maintenance of the poor is paid in the month of Ramadan, called Sicaah coin by the Arabs, and Ungumszekà, by the Bernawa. The inhabitants are chiefly Mahomedans, who circumcise both sexes, and who have many Abyssinian negro slaves. Some French slaves were formerly possessed by the Sultan, who were allowed to dress as Europeans, and who were employed by him in the establishment of a cannon foundry. Gold and silver is coined by the Sultan, and Spanish and imperial dollars, as well as Venetian zecchins, are current.

Salt, of a superior kind, is an extensive manufacture here, and is obtained from the ashes of a thorny plant, boiled and purified. The natives also cultivate tobacco, though they never smoke its leaves, but use them for chewing, and manufacture them into snuff. It is remarkable that none but the Christians, Moghrebines, and other foreigners, are in the habit of smoking.

Whips are made out of the hide of the ox and hippopotamus, and wax and tallow into candles. Two kinds of fermented liquor are in use: the one called Amderkù, is made from dates steeped in water, then adding meal, and squeezing the whole through a cloth. The liquor is used after it has stood two or three days. The second called sza, is made from durrah or meyz, and is extremely intoxicating.

The inhabitants likewise manufacture coarse linen, blue, cotton, and calicoes, and are not unacquainted with the art of making musical instruments; having lutes with five horse-hair strings, and wooden trumpets. The use of flint and steel is known, but they usually kindle a flame, by rubbing one stick held perpendicularly upon another placed in a horizontal position. Sewing and packing needles, rings of silver, gold and brass, and embroidered quilts, are also among their manufactures. The inhabitants, though composing so many different nations, are said to

be alike in their appearance, having a black complexion, but features different from those of the negroes. Their dress usually consists of a girdle for the waist, a turban consisting of a red woolen cap, surrounded by folds of cotton; together with a loose robe of coarse colored cotton.

BORODINO, a small town of Russia, near the Moskwa, and about ninety miles west of Moscow, is remarkable for the great battle fought in its neighbourhood, 7th of September, 1812, between the French and Russians. The latter having collected a force of 120,000 near this place, determined to make a stand here in favor of the ancient capital. On the right was the river Moskwa, on their left a thick coppice of underwood, enclosing a battery, and the whole length of their line, about four miles, was protected at intervals by batteries, particularly towards the river. The country however was flat: and his left being particularly vulnerable, Kutusoff, the Russian general, threw up a redoubt about half a mile in its front. Of this redoubt the French van, however, gained possession on the 5th. On the 7th, the French being commanded by Buonaparte in person, both armies were drawn up by sunrise, and the batteries on each side manned with several hundred field pieces: the firing began at six o'clock, and soon became general in the centre and Russian left. The French, after making some impression with their artillery and musketry, marched forward to attack particular points in the Russian position, not successively, but simultaneously; and the too great length of the line afforded an advantage to an enemy habituated to advance in masses. Accustomed to avail himself of the slightest mistake of an enemy, Buonaparte now directed an attack on the Russian left, in front, along the coppice, instead of taking the extremity of the flank, where Kutusoff expected it, and where he had stationed a protecting corps. The French pushed forward, and carried several batteries; and though the Russians were reinforced, and returned to the charge with great intrepidity, their recovery was attempted in vain. The enemy were strong, and their force well distributed. Success fluctuated awhile in the centre, where the Russians at one time retook a great battery, and drove the French back with dreadful carnage; but the failure on their left enabling the enemy to throw a mass of force into this quarter, the result was an irruption which nothing could withstand, and the final loss of the position. About eight o'clock in the morning the French first got possession of the Russian batteries; the reiterated attacks of the latter prolonged the engagement till noon, and even till two o'clock, after which the fighting became partial, and soon ceased. Eugene Beauharnois, Murat, and Ney, greatly distinguished themselves in this battle. On the side of the Russians fell prince Bagration, a general of considerable courage and talent. The loss of the Russians was about 30,000, and that of the French nearly equal. There was no pursuit, but in the course of the following night the Russians evacuated their remaining batteries on the right.

BOROLYBICUS, the north-west wind.

BOROMEUS (St.) See BORROMEUS.

BORON, the combustible basis of boracic

acid. Boron is solid, tasteless, inodorous, and of a greenish-brown color. Its specific gravity is somewhat greater than water.

BORONIA, in botany, a genus of the class octandria, order monogynia: CAL. four-parted; petals four, ANTH. pedicelled: STYLE short: STIG. capitate: CAPS. four, united: SEEDS coated. Four species, all natives of New South Wales.

BOROUGH, } Goth. *baigan*; Ang-

BOROUGH-MONGER, } SAX. *beorgan*, *brigan*, *byrgan*, to bar; to defend; to fortify. It signified anciently a surety, or a man bound for others; a fortified town; now it means a town with a corporation, possessing the privilege of the elective franchise. *Rotten-boroughs*. See **CORNWALL**, **OLD SARUM**. Borough-monger is a political nuisance, dealing unlawfully in the purchase or sale of the elective franchise; almost as respectable as a common informer.

A *borough*, as I here use it, and as the old laws still use, is not a *borough* town, that is, a franchised town; but a main pledge of an hundred free persons, therefore called a free *borough*, or, as you say, franchise. For *borth*, in old Saxon, signifieth a pledge or surety: and yet it is so used with us in some speeches, as Chaucer saith, St. John to *boroh*; that is, for assurance and warranty. *Spenser*.

And, if a *borough* chuse him not, undone. *Pope*.

No office clerks, with busy face,
To make fools wonder as they pass,
Whisper dull nothings in his ear

'Bout some rogue *borough-monger* there. *Cowper*.

Hence chartered *boroughs* are such public plagues,

And burghers, men immaculate perhaps
In all their private functions, once combined,
Become a loathsome body, only fit
For dissolution, hurtful to the main. *Id. Task*.

BOROUGH, English, is a customary descent of lands or tenements, whereby in all places where this custom holds, lands and tenements descend to the youngest son; or, if the owners have no issue, to his youngest brother. *Cowell*.

BOROUGH. The learned author of the *Institutes* observes, that 'of *Boroughs*, some be walled, and some not;' and that the word *borhoe* signified a pledge, and was 'taken, in former times, for those companies of ten families, which were one another's pledge. According to *Spelman*, the ancient Saxons gave the name *burgh* to those called, in other countries, cities. But divers canons being made for removing the episcopal sees from villages and small towns to the chief cities, the name city became attributed to episcopal towns, and that of *borough* to all the rest; though these too had the appearance of cities, as being governed by their mayors, and having laws of their own making, and sending representatives to parliament, and being fortified with a wall and castle, and the like. We read in the old authorities, that 'every city is a *borough*, but every *borough* is not a city.' 'It is to wit,' says *Littleton*, sect. 164, 'that the ancient towns called *boroughs*, be the most ancient towns that be within England; for the towns that now be cities or counties, in old times were *boroughs*, and called *boroughs*, for of such old towns called *boroughs*, came the *burgesses* of the parliament, &c.'

BOROUGH, or **BURGH**, is now particularly appropriated to such towns and villages as send

burgesses or representatives to parliament. *Boroughs* are equally such, whether they be incorporated or not; there being great numbers of our English *boroughs* not incorporated; and, on the contrary, several corporations that are not *boroughs*; e. g. *Kingston*, *Deal*, *Kendal*, &c. *Boroughs* are distinguished into those by charter or statute, and those by prescription or custom. The number of *boroughs* in England and Wales, including cities and cinque ports, which elect members, is 215; some of which send one, some two representatives.

It has been a question disputed with great zeal among antiquaries, at what period the representatives of *boroughs* were first called to take a share in the national councils. Some have traced their origin to the Saxon *Wittenagemote*: others, on the contrary, have maintained, that the Commons formed no part of the great council, till some time after the conquest.

The advocates of the high antiquity of the Commons maintain, that they are to be traced even in the original customs of the ancient German nations, among whom, according to *Tacitus* (*de Mor. Germ.* c. 25.), all freeholders enjoyed an equal right with the nobles to assist in important councils. This right they exercised, upon their first settlement in foreign countries, by assembling together in open plains; and this is asserted to have been the practice among the Anglo-Saxons, the meadow near *Staines*, in which king *John* granted the great charter, being called *Runnemed*, or the meadow of council, because in ancient times it had been usual to meet there on the business of the nation. This custom, it is said, had gone into disuse previously to the Norman government; and the meeting in the reign of king *John* is the only instance of its having been revived. The words of an act of the 4th *Edw. III.* say, 'it is accorded, that a parliament shall be holden every year once, and more often, if need be,' it may hence, easily be inferred, that it was rather regarded as a privilege of which they earnestly desired the frequent enjoyment, than as a burden, as some have asserted, from which they wished to be exempt. There were some *boroughs*, indeed, which, on account of their poverty, were unable to bear the expense of sending members to parliament, and therefore declined the exercise of that privilege; but it were unfair to form any general conclusion from these particular cases. Besides, there are examples of *boroughs* petitioning to be restored to the use of the privilege of sending members to parliament, after a very long interruption.

It seems incredible, it is added, that, if the whole legislative power had before the reign of *Henry III.* been always in the hands of the nobility and the king, they should not have opposed the extension of it to so many persons of inferior rank; nor is it probable, that any new measure of such magnitude and importance, introduced by the earl of *Leicester*, while acting at the head of the nobles and the people in a very dangerous contest against the crown, should have been confirmed and perpetuated by *Edward I.* But among the close rolls of the twenty-fourth of that king, there is a writ of summons

to parliament, in which it is asserted, not as an innovation introduced by the earl of Leicester, 'but as a maxim grounded on a most equitable law, established by the foresight and wisdom of sacred princes, that what concerns all, should be done with the approbation of all; and that dangers to the whole community should be obviated by remedies provided by the whole community;' a species of language which could not, with propriety, have been used by Edward I. if the practice of summoning the commons to parliament had been a measure of recent introduction. It is, moreover, observed, that there is not the slightest intimation, in any of the oldest writs for sending up representatives from cities or boroughs, that such elections were a novelty. Two claims are still extant, made in the reigns of Edward II. and III. which have been held forth as decisive of the antiquity of the custom of sending citizens and burgesses to parliament, even from towns that were held under subjects, and not immediately of the crown. These are the claims of the towns of St. Albans and Barnstable. In the petition of the borough of St. Albans, presented to parliament in the reign of Edward II., the petitioners assert, that though they held in capite of the crown, and owed only for all other service their attendance in parliament, yet the sheriff had omitted them in his writs; whereas, both in the reign of the king's father, and all his predecessors, they had always sent members. Reference is also made to a statute of the fifth year of Richard II. sect. 2, which enacts, 'that all and singular persons and commonalties, which from henceforth shall have the summons of the parliament, shall come from henceforth to the parliaments in the manner as they are bound to do, and have been accustomed within the realm of England, of old times. And if any person of the same realm, which from henceforth shall have the said summons (be he archbishop, bishop, abbot, prior, duke, earl, baron, banneret, knight of the shire, citizen of city, burgess of borough, or other singular person or commonalty), do absent himself, &c. he shall be amerced and otherwise punished, according as of old times hath been used to be done within the said realm in the said case.' There is likewise a petition of the Commons in the second parliament of Henry V. which sets forth, 'that as it hath ever been their libertie and freedom, that there should no statute nor law be made, unless they passed thereto their assent, considering that the commune of your land, the which is and ever hath been a member of your parliament, be as well assenters as petitioners,' &c. Those on the other hand, who deny the high antiquity of the Commons' house of parliament observe, that, in those periods to which its origin is referred, no such class of men as are denominated citizens and burgesses had any political existence. Although Tacitus affirms, that, among the ancient Germans, the consent of all the members of the community was required in every important deliberation; yet he speaks not of representatives; and this ancient practice, mentioned by the Roman historian, could only have place among tribes where every citizen might, without inconvenience, be assembled upon any

extraordinary emergency. With regard to the Saxon Wittenagemote, it is said, the members are almost always called the principes, satrapæ, optimates, magnates, proceres; terms which seem to suppose an aristocracy, and exclude the Commons. The boroughs also, from the low state of commerce, were so small and so poor, and the inhabitants lived in such dependence on the great men, that it does not seem probable they would be admitted as a part of the national councils. It appears from Domesday that the greatest boroughs were, at the time of the conquest, scarcely more than country villages; and that the inhabitants were of a station little better than servile. If it be unreasonable to think that the vassals of a barony, though their tenure was military and noble, and honorable, were ever summoned to give their opinion in national councils, much less can it be supposed, that the tradesmen or inhabitants of boroughs, whose condition was so much inferior, would be admitted to that privilege. These boroughs were not then so much as incorporated; they formed no community; they were not regarded as a body politic; and being merely formed of a number of low dependent tradesmen, living without any particular civil tie, in neighbourhood together, they were incapable of being represented in the states of the kingdom. The first corporation, even in France, which made more early advances in arts and civilisation than England, is sixty years posterior to the conquest under the duke of Normandy, and in Normandy, the constitution of which was most likely to be William's model in raising his new fabric of English government, the states were entirely composed of the clergy and nobility; and the first incorporated boroughs, or communities of that duchy, were Rouen and Falaise, which enjoyed their privileges by a grant of Philip Augustus, in the year 1207. All the ancient English historians, when they mention the great council of the nation, call it an assembly of the baronage, nobility, or great men; and none of their expressions, says Mr. Hume (*ubi infra*), though several hundred passages might be produced, can, without the utmost violence, be tortured to a meaning, which will admit the Commons to be constituent members of that body. When historians mention the people, *populus*, as a part of the parliament, they simply mean the laity, in opposition to the clergy. If, in the long period of 200 years, which elapsed between the conquest and the latter end of Henry III., and which abounded in factions, revolutions, and convulsions of all kinds, the House of Commons never performed one single legislative act, so considerable as to be once mentioned by any of the numerous historians of that age, they must have been totally insignificant; and in that case, what reason can be assigned for their ever being assembled? The magna charta of king John provides, that no scutage or aid should be imposed, either on the land or towns, but by consent of the great council; and, for more security, it enumerates the persons entitled to a seat in that assembly, the prelates and immediate tenants of the crown, without any mention of the Commons: An au-

thority (says Hume) so full, certain, and explicit, that nothing but the zeal of party could ever have procured credit to any contrary hypothesis. The first unequivocal notice which is given by historians of any representatives being sent to parliament by the boroughs, occurs during the reign of Henry III. in the year 1265;—at a period when the earl of Leicester had usurped the royal authority, and summoned a new parliament to London; an assembly he fixed upon a more democratical basis, than any which had been called together, since the foundation of the monarchy. Besides the barons of his own party, and several ecclesiastics, who were not immediate tenants of the crown, he ordered returns to be made of two knights from each shire, and, deputies from the boroughs. The precedent, however, appears to have been regarded as the act of an usurpation, and to have been discontinued in subsequent parliaments, until the 23d year of Edward I., who, in consequence of his pecuniary embarrassments, occasioned by his foreign and domestic military expeditions, again had recourse to the measure of summoning the representatives of the boroughs to parliament; and this period seems to be the real and true epoch of the House of Commons, and the dawn of popular government.

At first, these representatives of boroughs did not, properly speaking, compose any essential part of the parliament: they sat apart both from the barons and knights, who appear to have regarded them as personages of a very inferior rank. Having given their consent to the taxes required of them, their business was considered as finished, and they separated, even although the parliament still continued to sit, and to canvass the national business. By this union, however, they gradually acquired more weight; and it became customary for them, in return for the supplies which they granted, to prefer petitions to the king for redress of any grievances of which they found reason to complain. Still the Commons do not yet appear to have assumed the character of legislators. Throughout the reign of Edward I., their assent is not once expressed in any of the enacting clauses, nor in the ensuing reigns, until the 9th of Edw. III. nor in any of the enacting clauses of 16th Richard II. Nay, even so late as Henry VI., from the beginning till the 8th of his reign, the assent of the Commons is not once expressed in any enacting clause. (See Ruffhead's Statutes, preface, p. 7.) So little were they accustomed to transact public business, that they had no speaker till after the parliament 6th Edward III., and, in the opinion of most antiquaries, not till the first of Richard II. The burgesses did not even form the same House with the knights of shires. But as their wealth and consideration increased, so did also their public importance; and, in the reign of Henry V., the commons required, that no laws should be framed merely upon their petitions, unless the statutes were worded by themselves, and had passed their House in the form of a bill. They were, at length, united in the same house with the knights of shires. This, however, according to Mr. Carte (Hist. v. ii. p. 451), did not take place until the 16th Edward

III. and instances afterwards occur of the burghs and burgesses acting separately.

Burgesses were first admitted into the Scottish parliaments by Robert Bruce, A.D. 1326; in the preamble to the laws of Robert III. they are ranked among the constituent members of that assembly.—Brady on Boroughs. By the articles of union the Scotch boroughs send fifteen members to the British parliament.

BOROUGHs, in the law of Scotland, are corporate bodies, erected by the king's charter; and consisting of the inhabitants of a certain district, and its jurisdiction. They hold either of the crown, or of a subject: hence they are distinguished into boroughs royal, and boroughs of regality or barony. All royal boroughs have power, by their charters, to choose annually such office-bearers or magistrates as are specified in the grant; generally a provost, bailies, dean of guild, treasurer, and common council, who are elected in terms of the set or constitution of the borough. The magistrates of royal boroughs have the same civil jurisdiction within the borough, as the sheriff in his territory. They are also empowered by special statute, 1644, c. 35, revived by 1663, c. 6, to value and sell ruinous houses, when the proprietors refuse to rebuild or repair them. Their criminal jurisdiction is now confined to petty riots. By the charters of some royal Scottish boroughs, the magistrates are constituted justices of the peace within the bounds of their erection; and, since the union, the eldest magistrate of every royal borough is named, as a matter of course, in all the commissions of the peace. In all matters of police, the magistrates and town council must concur, as the full representatives of the community. In this capacity they enact bye-laws, choose persons into offices which are in their gift, &c.; and they may not only proportion the public taxes among the inhabitants, but also impose taxations, for the utility of the borough, by their own authority, provided they have not only the consent of the magistrates and council, but of the special corporations burdened.

In boroughs of barony and regality, the right of electing magistrates is, by the charter, vested sometimes in the inhabitants themselves, and sometimes in the baron or superior. Their jurisdiction extends to the cognisance of debts, and questions of possession between the inhabitants; and the superior's jurisdiction is always cumulative with that of the magistrates.

The convention of royal boroughs is composed of deputies or commissioners, one from each borough, who were as early as 1487, c. 3, authorised to meet yearly, to consider of the 'welfare of merchandise, the gude rule and statutes for the common profite of burrowes, and to provide for remeid upon the skaith and injuries sustained within the burrowes.' Their powers were confirmed and enlarged by many subsequent acts; and accordingly that body have been in the practice of meeting annually in Edinburgh, for the purpose of regulating the matters committed to their charge.

BOROUGH ENGLISH, in English law, is a custom in certain manors and boroughs, respecting the descent of lands, whereby they are inherited

by the youngest, instead of the eldest son. According to Glanville (lib. 7. cap. 3. to 9, cited by Co. Litt. 110), this name was given because the custom originated in England. Like that of 'Gavelkind,' however, it was of Saxon birth, but was recognised and retained under the Norman law. Different reasons have been assigned for this singular custom. Littleton says, because the youngest son, by reason of his tender age, is presumed to be more helpless than the rest of his brethren. Other authors have given a much stranger reason to the custom, and say, that the lords of certain lands having anciently the privilege of breaking the seventh commandment with their tenants' wives, on their wedding night, their tenement descended not to the eldest son, but to the youngest son, because he was more certainly the offspring of the tenant! The last custom alluded to, however, never prevailed in England, although it obtained in Scotland, under the name of *mercheta*, or *marcheta*, until it was abolished by Malcolm III. Blackstone endeavours to trace the origin of this species of descent in a more rational way, by deducing it from the practice of the Tartars, and other pastoral tribes; among whom, according to Father Du Halde, this mode of descent to the youngest son also prevails. The reason assigned for it is this, that among nations composed totally of shepherds and herdsmen, the elder sons, as soon as they are capable of leading a pastoral life, migrate from their father with a certain allotment of cattle, and go to seek a new habitation; while the youngest, who remains last at home with his father, is naturally the heir of his house, the rest being already provided for. This custom, of the elder son's separating from the father, is also to be found among other northern nations. In our law it is one of those customs of which it is technically said 'the law takes notice,'—that is, when proof shall have been adduced that certain lands are subject to the custom of borough English, the law will adjudge the right therein accordingly, without calling on the youngest son to prove what that custom is.

If a copyhold in borough-english be surrendered to the use of a person and his heirs, the right will descend to the youngest son according to the custom. And a youngest son shall inherit an estate in tail in borough-english. But an heir at common law shall take advantage of a condition annexed to borough-english land; though the youngest son shall be entitled to all actions in right of the land, &c. And the eldest son shall have tithes arising out of land borough-english: for tithes of common right are not inheritances descendible to an heir, but come in succession from one clergyman to another.

Borough-english land being descendible to the youngest son, if a younger son dies without issue male, leaving a daughter, such daughter shall inherit jure representationis. It has been adjudged where a man hath several brothers, the youngest may inherit lands in borough-English: yet it is said where a custom is, that land shall go to the youngest son, it doth not give it to the youngest uncle, for customs shall be taken strictly; and those which fix and order the descents of inheritance, can be altered only by parliament.

BOROUGHs, in Scotland. See LAW.

BOROUGHs (Royal), in Scotland, are corporations made for the advantage of trade by charters granted by several of their kings; having the privilege of sending commissioners to represent them in parliament, besides other peculiar privileges. The royal Boroughs are not only so many distinct corporations, but also constitute one entire body, governed by, and accountable to, one general court, anciently called the court of four boroughs, held yearly to treat and determine concerning matters relating to the common advantage of all boroughs. The four boroughs which composed this court were Edinburgh, Stirling, Roxburgh, and Berwick; which two last falling into the hands of the English, Linlithgow and Lanerk were put in their places; with a saving to the former, whenever they should return to their allegiance. But this court not being sufficient to answer the necessities of the royal boroughs, they were all empowered, under James III. in 1487, to send commissioners to a yearly convention of their own, which was then appointed to be held at Inverkeithing but is now held at Edinburgh, under the denomination of the convention of boroughs, vested with great power, and having for their object the benefit of trade, &c. See BOROUGH, p. 344.

BOROUGHBRIDGE, a market town in the west riding of Yorkshire, seated on the river Ure, over which there is a handsome stone bridge. It is a place of little trade, but many Roman coins have been found in the vicinity; and a sanguinary battle was fought near this place by the earls of Hertford and Lancaster, against the troops of Edward II. in 1322, wherein they were defeated, and the latter taken prisoner and executed. It sends two members to parliament, and lies seventeen miles north-west of York, and 218 miles north by west of London.

BOROUGH-COURTS are certain courts held in boroughs by prescription, charter, or act of parliament: such are the sheriff's court, and court of Hustings in London.

BOROUGH-HEAD, or HEAD-BOROUGH, one of the lowest magistrates among the Anglo-Saxons, and the chief man of the decenary, tithing, or free-burg, consisting of ten families. He was also called the tithing-man, and, in some countries, the borough-holder, bors-holder, or borough's-elder. Alfred made every householder answerable for the behaviour of his family, slaves, and guests, if they lived three days in his house; and ten neighbouring householders formed themselves into a corporation, under the name of a decenary, or tithing, of which the head-borough was the president. Every man was punished as an outlaw, who did not register himself in some tithing; nor could any one change his habitation, without a warrant or certificate from the head-borough of the tithing to which he formerly belonged. When any person in any tithing was guilty of a crime, this officer was summoned to answer for him; and if he were not willing to be surety for his appearance and his clearing himself, the criminal was committed to prison for trial. If he fled, the bors-holder and decenary became liable to inquiry, and were exposed to the penalties of the law.

Thirty one days were allowed them for producing the criminal: and if they did not find him within that time, the bors-holder, with two other members of the decennary, was obliged to appear, and, together with three chief members of the three neighbouring decennaries (making twelve in all), either to swear that his decennary was free from all privy both of the crime committed, and of the escape of the criminal, by fine make satisfaction to the king. The severity of this regulation was afterwards a little mitigated, and the oaths of all the members of the tithing to which the criminal belonged, to the above effect, were admitted as a sufficient exculpation, provided that, at the same time they promised to present him to justice, as soon as they could apprehend him. By this every man was obliged to keep a watchful eye over the conduct of his neighbours; and was in a manner surety for the behaviour of those of his division; hence these decennaries received the name of frank-pledges. See TITHING.

BOROZAIL, a disease, epidemic in the countries about the river Senegal; similar to the lues venera.

BORRA, or **BORRADH**, in Gaelic antiquity, a pile of stones, but differing both from a cairn and a dun, in external figure, as well as in size and design. Outwardly these borras were covered with heath or grass so as to appear natural protuberances, and surrounded with wood. In their internal construction, they were oblong, and divided into small apartments. They were generally built on an eminence. Mr. McFarlane of Kilsinan, describes one of them in his parish, 'forty yards long, of considerable breadth, and amazing depth. At the bottom, from one end to the other, there was a number of small cells, end to end, each made up of five to seven large flags. Each cell was about five feet long, four broad, and five high. One large flag made up each side, and another of a curved figure, to throw off the water, covered them for a roof; the end was made up of two, and an opening between them, wide enough for a man to squeeze himself through.' He thinks they were intended as places of concealment for the plunder, which the ancient clans, in the ages of irregular government, carried off from each other. *Stat. Acc.* XIV. 127.

BOR'REL, *n. s.* It is explained by Junius without etymology. A mean fellow; one who wears coarse and shabby garments, and therefore considered low and vulgar. Mr. Tyrwhit derives it from bureau, which signifies a coarse cloth of a brown russet.

That is to say, if I begay, sire shrew!
I wol renne out my borel for to shewe.

Chaucer. Cant. Tales.

Siker thou speakest like a lewd sorrel,

Of heaven to deemen so:

Howbe I am rude and borel,

Yet nearer ways I know.

Spenser.

BORRELLISTS, in church history, a Christian sect in Holland, so named from their founder Borrel, a man of good learning in the Hebrew, Greek, and Latin tongues. They reject the use of the sacraments, public prayer, and all other external acts of worship. They assert, that all

the Christian churches of the world have degenerated from the pure apostolic doctrines, because they have suffered the word of God, which is infallible, to be expounded, or rather corrupted, by doctors who are not infallible. They lead a very austere life, and employ a great part of their goods in alms.

BORRHAUS (Martin), professor of divinity at Basil, first named Cellarius. He was born at Stutgard in 1499, and acquired the friendship of Melancthon, at Wirtemberg, where he had many scholars, and made much money. But afterwards falling in with Stubner, the anabaptist, he adopted his fanaticism, and in a conference with Luther in 1522, showed an extravagant degree of zeal. In 1525 being in Prussia, he was imprisoned on account of his principles, which, however, he still defended, and wrote several books to support them. Opinions, true or false, are not to be altered by compulsion. The failure of the prophecies of his brethren fanatics, representing the immediate renovation of all things, at length converted him, and made him not only change his profession but even his name. He retired to Basil in 1536, turned glazier for a livelihood, married, and at last was admitted professor of rhetoric and divinity in that university. He wrote, 1. Notes on Aristotle's Politics, in 1545. 2. A Commentary on Aristotle's Rhetoric, in 1551. 3. Another on the Pentateuch, in 1557. 4. One on Isaiah, and the Revelations, in 1561. 5. One on Job and Ecclesiastes, in 1564. He died at Basil, in 1564, of the plague.

BORRI, or **BURRIUS** (Joseph Francis), a famous chemist and quack of the seventeenth century, was a Milanese, and a most consummate villain. In his youth, he was quite debauched, but afterwards set up for a very religious man, and pretended to inspiration. He engaged his deluded followers in vows of poverty, while he had the address to draw from them all their money. His design was to bring about a revolution in Milan, but some of his disciples being apprehended, he fled to Strasburgh, and afterwards to Amsterdam; whence, after figuring some time with eclat as a great chemist, he decamped in the night, with much money and many jewels, which he had swindled from the public. He next imposed upon the simplicity of Q. Christina, of Sweden, and led her to bestow a great sum in search of the philosopher's stone; and soon after put Frederick III. king of Denmark, upon the same vain and expensive search. On that monarch's death he fled to Turkey, but was apprehended on the frontiers and sent to Rome, where he was condemned to perpetual imprisonment. In 1672 he abjured his errors, and was allowed to attend the duke of Estrees, when the physicians had given him over. The extraordinary cure he performed, astonished all good Catholics. He died in the castle of St. Angelo, in 1695, aged seventy-nine.

BORRI, or **BOBERRI**; the Indian name for turmeric; also an Indian ointment, in which the roots of turmeric are a chief ingredient.

BORRICHUS (Olaus), one of the most learned men of his age, the son of a Lutheran minister in Denmark, was born in 1626. He studied

physic in the university of Copenhagen, and began to practise during a most terrible plague that made great havoc in that city. He travelled, but before his departure in 1660, was appointed professor in poetry, botany, and chemistry; and at his return discharged his duties with great assiduity. He was raised to the office of counsellor in the supreme council of justice in 1686; to that of counsellor of the Royal Chancery in 1689; and died of an operation for the stone in 1690. He published, 1. *Docimasia Metallica*. 2. *Hermētis Egyptiorum et chemicorum Sapientia*. 3. *Conspectus chemicorum*. 4. *Lingua Pharmacopœorum*. 5. *Dissertatione de poetis Græcis et Latinis*. 6. *De Ortu et Progressu Chemiæ*; and several other works.

BORRISOKEN, a village in Tipperary.

BORROROMEAN ISLANDS, in geography, two islands situated in the bay of the lake, called Lago di Maggiore, or Lago di Locarno, in the Milanese, and so denominated from their having belonged to the Borromeo family. One of the islands is called Isola Bella, and the other Isola Madre. They are a league distant from each other, and derive the various beautiful scenes and objects which they present, from the taste and liberality of the Counts Renatus and Vitalian Borromeo. Originally barren rocks, these noblemen, with immense labor and expense, furnished them with numerous terraces, grottoes, gardens, fountains, groves of cedars, cypress, citron trees, orange trees, laurel, &c. which render them scenes of enchantment, and a kind of terrestrial paradise. Bishop Burnet and Keyser speak of them as the finest places in the world in their time. They 'can be compared to nothing more properly,' says the latter, 'than to pyramids of sweetmeats ornamented with green festoons and flowers.'

'As the taste of mankind alters with a succession of years, I consider them,' observes Mr. Archdeacon Coxe, at a later period, 'only as a monument of expense and folly. Terrace rises above terrace in regular gradations, bordered with flower-pots, or gigantic statues of horses, gods, and goddesses. The whole is raised upon arches, and the soil has been brought from the shore to cover them.' He adds, however, 'the palace is magnificent, and contains a profusion of marbles and paintings. The lower part of the house overhangs the lake on one side, where several apartments are furnished in the style of grottoes; the floors, pillars, and walls, are inlaid with various colored stones, marbles, and shells; the view and coolness united make this part a delicious summer retreat. If any thing justly gives this island the appellation of enchanted, it is the prospect from the terrace. The gradual diminution of the mountains from the regions of eternal snow to the rich plain; the sinuosity of the lake; its varied banks; the bay of Marzozzo bounded by vast hills; the neighbouring burgh of Palanza, and more distant view of Laveno; the numerous villages; the Isola Madre, on which is a palace of the Borromeo family; and another island sprinkled with fishermen's huts, form a delightful assemblage. These islands, and the whole western coast of the lake to the village of Locarno, were ceded to the king of

Sardinia by the late empress queen at the treaty of Worms, in consideration of the assistance which she received from that monarch.' See *Coxe's Travels in Switzerland*, v. iii.

BORROROMEIO, or **BORROROMEUS** (St. Charles), cardinal and archbishop of Milan; a personage of great note in the Romish kalendar, and whose sincere piety, simplicity of manners, and zeal for reformation, render him indeed a character equally interesting and instructive to the members of any church. He was the son of Gilbert Borromeo, count of Arona, and Mary of Medicis, and was born at the castle of Arona upon Lake Maggiore in the Milanese in 1538. When he was about twelve years old, Julius Cæsar Borromeo resigned an abbacy to him of a considerable revenue, which was considered as an hereditary possession of the family. Charles accepted of it, but applied the revenues wholly in charity. Having acquired a sufficient knowledge of the languages at Milan, he studied the civil and canon law at Pavia. He received great advantage from the conversation of Francis Alciat, one of the most learned men of the age, for whom he afterwards procured the purple. He would accept no benefice but upon condition that he should be at liberty to apply the revenue to public uses. In 1554 his father died, an event which brought him back to the castle of Arona; where, though he had an elder brother, Count Frederick, he was requested by the family to take upon him the domestic affairs, to which he at length consented. In 1559 he finished his studies, and took his degree of D. D. The promotion of his uncle Pius IV. to the pontificate in 1560, seemed to have very little effect upon him; but he was soon made protonotary, entrusted with the seals of the ecclesiastical state; and created cardinal-deacon, and soon after archbishop of Milan. In obedience to his uncle, he lived in great splendor, yet retained his own temperance and humility. He now established an academy, the works of which have been published in many volumes, intitled *Noctes Vaticanæ*. About this time he also formed a design of founding a college at Pavia, which should be both a school of science, and an asylum from vice. He accordingly raised a large edifice upon ground which belonged to the family of Borromeo in that city; he obtained from the pope several benefices, which he attached to his building; and he provided it with all things necessary out of his own revenue. Upon the death of his only brother Frederick, his relations, his friends, and even the pope himself, advised him to quit the church and marry, that his family might not become extinct. Charles, however, contrary to the expectations of the world, received the priesthood, and addressed the pope in these terms: 'Do not complain of me, Holy Father, for I have taken a spouse whom I love, and on whom my wishes have been long fixed.' There was a very intimate friendship between Borromeo and Don Barthelemy des Martyres, archbishop of Prague, and author of the work entitled *Stimulus Pastorum*. This work falling into Borromeo's hands, gave him an earnest desire to become a preacher. Having obtained permission to visit his church, he set out for Milan, where he was received with the most dis-

tinguished honors. He was, however, soon recalled to Rome; the pope was dying; and Charles arrived just in time to administer to him the last sacraments, on the 7th January, 1566, and, by his influence, to moderate the cabals of the conclave, in the election of his successor, Pius V. Borromeo then gave himself up to the reformation of his diocese, where the most flagitious irregularities were openly practised; and though he met with much opposition, prevailed by an inflexible constancy, tempered with great sweetness of manners. The most formidable opposition he had to struggle with was that of the Brothers of Humility. Three provosts of this order entered into a conspiracy to cut him off; and one of their confederates called Jerom Donat, surnamed Farina, took upon himself to execute the bloody design. For this purpose he mixed with the crowd that went into the archiepiscopal chapel, where the cardinal spent an hour every evening in prayer; and fired a harquebuss at him, loaded with ball and a considerable quantity of shot. It is said that the ball struck him on the spinal bone, but fell down at his feet without doing any other damage than soiling his rochet, and that the shot tore away part of a wall and went through a table. This was reckoned a miracle, but what was more to his honor, than if it had been one, he made every exertion to procure a pardon for the assassin. But the pope was inflexible; the monk was executed, and the order suppressed. In 1576 Milan was visited by the plague, which swept away incredible numbers; and the behaviour of Borromeo on this occasion was truly Christian and heroic. He went about giving directions for accommodating the sick, and burying the dead, with a zeal and attention that were at once ardent and deliberate, minute and comprehensive; and his example stimulated others to join in the good work. The continual labors and austerities of Borromeo shortened his life, and he died at Milan, the 4th of Nov. 1584, lamented by the whole province. Borromeo was canonised the 1st of Nov. 1610. Many churches and chapels, and religious societies, have since been erected to his honor.

BOR'ROW, *v. & n.* } Dutch, *borgen*; Ang-
BOR'ROWER, } Sax. *beorgian*; of the
BOR'ROWING, } same origin with bo-
BORS'OLDER, } rough. In Chaucer and the old writers, borrow or borowe is used in the sense of a security; a pledge. To borrow, in modern usage, is to take up money or other property of another upon a promise, pledge, or security given, to repay or return it: opposed to lending. It is also occasionally employed to signify what in common parlance would be called stealing; taking without leave; using another's property as if it were our own.

This Palamon answered; 'I grant it thee;'
And, thus, they ben departed til a morwe,
Whan eche of hem hath laid his faith to borwe.

Chaucer's Cant. Tales.

Fye! Fye! deformed wight,
Whose borrowed beauteie now appeareth plaine
To have before bewitched all men's sight;
O leave her soone or let her soone be slaine! *Spenser.*

Yet of your royal presence I'll adventure
The borrow of a week. *Shakespeare.*

Neither a borrower nor a lender be;
For loan oft loses both itself and friend,
And borrowing dulls the edge of husbandry. *Id.*

Go not my horse the better,
I must become a borrower of the night
For a dark hour or twain. *Id.*

He borrowed a box of the ear of the Englishman,
and swore he would pay him again when he was
able. *Id.*

Upon his shield the silver moon did bend
Her horned bow, and round her arrows spend:
This word in silver wrote, 'I borrow what I lend.'

Fletcher's Purple Island.

Night would invade: but there the neighbouring
moon

(So call that opposite fair star) her aid
Timely interposes, and her monthly round
Still ending, still renewing, through mid heaven,
With borrowed light, her countenance trim,
Hence fills and empties to enlighten the earth,
And in her pale dominion checks the night. *Milton.*

Where darkness and surprize made conquest
cheap!

Where virtue borrowed the arms of chance,
And struck a random blow! *Dryden.*

Some say that I am a great borrower; however,
none of my creditors have challenged me for it. *Pope.*

Mark me, Cleoilda,

And mark me well,—I am no desperate wretch,
Who borrows an excuse from shameful passion
To make its shame more vile;—
I am a wretched but a spotless wife.

Maturin's Bertram.

BORROWING and HIRING, in law, are contracts by which a qualified property may be transferred to the hirer or borrower; in which there is only this difference, that hiring is always for a price or stipend, or additional recompense: borrowing is merely gratuitous. But the law in both cases is the same. They are both contracts, whereby the possession and transient property is transferred for a particular time or use, on condition and agreement to restore the goods so hired or borrowed, as soon as the time is expired, or the use performed, together with the price or stipend (in case of hiring) either expressly agreed upon by the parties, or left to be implied by law, according to the value of the service. By this mutual contract, the hirer or borrower gains a temporary property in the thing hired, accompanied with an implied condition to use it with moderation, and not to abuse it; and the owner or lender retains a reversionary interest in the same, and acquires a new property in the price or reward. Thus, if a man hires or borrows a horse for a month, he has the possession and qualified property therein during that period; on the expiration of which his qualified property terminates, and the owner becomes, in case of hiring, intitled also to the premium or price for which the horse was hired. There is one species of this reward the most useful of any, but concerning which many good and learned men have much perplexed themselves and others, by doubts about its legality in foro conscientie. That is, when money is lent on a contract to receive not only the principal sum again, but also an increase by way of compensation for the use, which is generally called interest by those who think it

lawful, and usury by those who do not. See INTEREST.

BORROWSTOWNNESS, a sea-port town of Scotland, in the county of Linlithgow, on the south side of the Forth, two miles north of Linlithgow, and nineteen west from Edinburgh. It has a good harbour, and is surrounded with collieries and salt works; its chief trade consisting in salt and coals. It has a fair and races on the 16th of November. Borrowstownness has a custom-house, and formerly traded to a considerable extent with different parts of the kingdom, as well as foreign ports. At present the whole exports do not exceed 10,000 tons annually, and the tonnage of the shipping belonging to the port is much reduced. Five whale ships, however, still belong to the port. The trade of Borrowstownness has declined in consequence of the navigable canal between the Clyde and Forth, and most of its trade has been transferred to Grangemouth, standing at the termination of this canal. There are two weekly markets, Monday and Friday.

BORSCHOD, a county of Hungary, bounded on the north by those of Gomor and Torn, on the east by Ujvar, Semplin and Saboltsch, and on the south and west by Hewisch and Meograd. It possesses a highly favored climate, and is one of the most fruitful districts in the kingdom. Abundance of corn, excellent wine, and forest timber, are its valuable products; and most of the rivers are stocked with excellent fish. The rearing of cattle is also conducted with activity, and many thousand head of oxen are annually exported. The inhabitants are for the most part native Hungarians, but mixed with Bohemians, Slavonians, and Germans. The total number is above 93,000, of whom about 1000 are Jews. It is divided into the circles of Mischkolz, Erlau, Sendro, and St. Peter, in which there are ten market towns and 159 villages, with 84 Calvinist parishes, 52 Catholic, ten Greek, and one Lutheran.

BORSE HOLDER, among the Anglo-Saxons, one of the lowest magistrates, whose authority extended only over one free burgh, tithing or decennary, consisting of ten families. See Borough.

BORSELLA, in the glass-works, an instrument wherewith glasses are extended or contracted at pleasure; also smoothed and levigated.

BORTAN, a river of North America, in Vermont, which rises in Westmore township, Orange county, and after running north-west unites with the river Black.

BORTHWICK CASTLE, a magnificent ruin, originally of astonishing strength. It was built by William, the first Lord Borthwick, about A. D. 1430. It measures about seventy-four feet by sixty-eight without the walls, which are of hewn stone firmly cemented, thirteen feet thick near the bottom, and gradually contracted to about six near the top; and, besides the sunk story, ninety feet in height to the battlement, but including the roof, which is arched and covered with flags, 110 feet high. The great hall is forty feet long, and had been elegantly adorned with lustres, paintings, tapestry, &c. On the first floor are state-rooms, formerly accessible by

a draw-bridge. Notwithstanding its strength, it was taken by Oliver Cromwell in 1650.

BORYPTES, in natural history, a gem of a black color with red and white spots.

BOS (John Baptist, Du), a celebrated author and member of the French Academy, was born at Beauvais in 1670, and finished his studies at the Sorbonne. In 1695 he was made one of the committee for foreign affairs, and was afterwards charged with some important transactions in England, Germany, Holland, and Italy. At his return to Paris he was made an abbé, and chosen perpetual secretary of the French Academy. He was the author of several excellent works; the principal of which are, 1. Critical Reflections upon Poetry and Painting, 3 vols. 12mo. 2. The History of the four Gordians, confirmed and illustrated by medals. 3. A Critical History of the Establishment of the French Monarchy among the Gauls, 2 vols. 4to, 4 vols. 12mo. He died at Paris in 1742.

Bos (Jerome), born at Bois-le-Duc about 1470, had a peculiar pleasure in painting devils, spectres, and enchantment; though, therefore, he possessed considerable powers as a painter, his pictures rather excite horror mixed with surprise than real delight. The most remarkable painting of this master's hand, now in the Escorial, is an Allegory of the Pleasure of the Flesh, in which he represents the principal figure in a carriage drawn by monstrous forms, preceded by demons, and followed by death. His manner was less stiff than that of most of the painters of his time, and his draperies in better taste. His pictures have always been much esteemed, and yield considerable prices. At Bois-le-Duc is a picture of the flight into Egypt by him, which is well executed. He also engraved a number of plates, all which exhibit his fanciful humor. He died about 1530.

Bos (Lambert), an eminent critic, son of the rector of the college at Worum in Holland, born in 1670. He completed his education under the celebrated Vitringa, at Franeker, where he became Greek professor in 1704, and continued in that situation till his death in 1717, much accelerated by his intense application to study. His edition of the Septuagint with Prolegomena, and various readings, printed in 1709 at Franeker, in 2 vols. 4to. is greatly admired. Among his other works are, Exercitationes Philologicæ, &c. 8vo. 1700, reprinted in 1713; Antiquitatum Græcarum Descriptio; Animadversiones ad Scriptores quosdam Græcos; Thomæ Magistri Eclogæ cum Notis; an improved edition of Vilerius' Greek Grammar; and a treatise in great estimation with grammarians, entitled *Mysterii Ellipseos Græcæ expositi Specime*, a Variorum edition of which appeared at Leipsic in 1809.

Bos, in antiquity, was used for an ancient Greek silver coin: called, also, didrachmus, being equivalent to two drachms. It was called bos as having on it the impression of an ox, and chiefly obtained among the Athenians and Delians; being sometimes also struck of gold. From this arose the phrase *bos in lingua*, applied to those who had taken bribes to hold their tongue.

Bos, the ox, in zoology, a genus of quadrupeds belonging to the order of pecora. The cha-

acters of this genus are taken from the horns and teeth. The horns are hollow within, and extended in the form of crescents: there are eight fore teeth in the under jaw, and none in the upper, their place being supplied by a hard membrane; and there are no dog teeth in either jaw. Linnæus enumerates six species, but Mr. Robert Kerr, in his *Animal Kingdom*, or *Zoological System* of Linnæus, describes nine species and seventeen varieties. As he is one of the best writers on the subject, and has added every thing important from Gmelin, Mr. Pennant, and other eminent writers on zoology, we have adopted his classification, with the exception only of the *bonasus* and the *Indicus*, which he ranks as varieties of the *bos taurus*, but which we cannot help considering as distinct species, as indeed most other authors have ranked them: upon this account, therefore, the species we have to describe are eleven in number, viz.

I. *Bos AMERICANUS*, the American bison, with short black rounded horns, and a great interval between their bases. On the shoulders is a vast hunch, consisting of a fleshy substance, much elevated. The fore parts of the body are thick and strong; the hinder parts slender and weak. The hunch and head are covered with a very long undulated fleece, divided into locks, of a dull rust color: this is at times so long, as to make the fore part of the animal look shapeless, and to obscure its seeing. During winter, the whole body is clothed in the same manner. In summer the hind part is naked, wrinkled, and dusky. The tail is about a foot long; at the end is a tuft of black hairs, the rest naked. It inhabits Mexico, the interior parts of North America, and in the Savannas; and is fond of marshy places, where it lodges amidst the high reeds. In Louisiana they feed in herds innumerable, promiscuously with multitudes of stags and deer, retiring in the sultry heats into the shade of tall reeds, which border the rivers. They are exceedingly shy; and very fearful of man, unless they are wounded, when they pursue their enemy, and become very dangerous. The chase of these animals is a favorite diversion of the Indians. The uses of these animals are various. Powder-flasks are made of their horns. The skins are very valuable; formerly the Indians made of them the best targets. When dressed they form an excellent buff; the Indians dress them with the hair on, and clothe themselves with them; the Europeans of America use them for blankets, and find them light, warm and soft. The flesh is a considerable article of food, and the hunch on the back is esteemed a very great delicacy. The Indians prefer the flesh of the cows. The hair or wool is spun into cloth, gloves, stockings, and garters, which are very strong, and look as well as those made of the best sheeps' wool; Pownall assures us, that the most luxurious fabric might be made of it. The fleece of one of these animals has been found to weigh eight pounds. Their sagacity in defending themselves against the attacks of wolves is admirable. When they scent the approach of a drove of those ravenous creatures, the herd casts itself into the form of a circle; the weakest keep in the middle; the strongest are ranged on the outside, presenting

to the enemy an impregnable front of horns: when taken by surprise, numbers are sure to perish. Attempts have been in vain made to domesticate them. They weigh from 1600 to near 3000 pounds.

II. '*Bos ARNET*,' says Mr. Kerr, 'has long erected semilunar horns, which are flattened, annularly wrinkled, with smooth, round, approaching points; and inhabits India, north from Bengal. This animal is of vast size, and is hitherto non-descript. A skeleton of the head with the horns is in the Edinburgh College Museum.' 'A British officer, who met with one in the woods above Bengal, says, it is about fourteen feet high, that it partakes of the form of the horse, bull, and deer, and is very bold and daring. This establishes its genus, as all the other horned animals, of the ruminant or cloven-footed tribe, are shy and timid.'

III. *Bos BARBATUS*, the bearded ox, or Cape auroch, 'has short horns; a beard on the chin, whence the name, and curly hair on the breast. It inhabits the country north of the Cape. The Namaquas call it baas, or the master courier, on account of its vast swiftness. It is like the common ox, but larger and of a gray color. The head is small.'

IV. *Bos BONASUS* has a long mane: its horns are bent round towards the cheek, and not above a span long. It is about the size of a large bull, and is a native of Africa and Asia. See *BONASUS*.

V. 1. *Bos BUBALUS*, the common buffalo, has large black horns, first extended outwards, then bent backward and inward, and plain before. The hair on the back is very hard, but thinly scattered over the body. It is a native of Asia; but they are tamed in Italy, and used for the same purposes as black cattle in other countries. They draw carriages, and are guided by a rope tied to a string thrust through their noses. This buffalo is larger than an ox, has a thicker body, and a very hard hide. His pace is slow, but he will carry a great burden. They feed in herds: the cows go twelve months with young, and yield plenty of milk, of which very good butter and cheese is made. Their flesh is pretty good, but not to be compared to beef. The wild buffalo is a very fierce and dangerous animal; he often attacks travellers, and tears them in pieces. However, they are not so much to be feared in woods as in the plains, as their horns, which are sometimes ten feet long, are apt to be entangled in the branches of trees, which gives those who are surprised by them time to escape. They are excellent swimmers, and will cross the largest rivers without any difficulty. They run wild in great troops on the coast of Malabar. Strangers are allowed to hunt and kill them at pleasure. The following varieties are mentioned by Messrs. Pennant and Kerr:—

2. *Bos BUBALUS ANOA* is a native of the island Celebes, and is not bigger than a middle sized sheep, very fierce and wild, of a dark ash color, inhabiting the rocks. Mr. Loten, when in India, put some of them into a paddock, and in one night's time they killed fourteen or fifteen of his deer by ripping up their bellies. No particular description has yet been given of it.

3. *Bos BUBALUS GUAVERA* has a hunch on

the back, which stands up in a sharp ridge; the lower halves of the legs are white. It inhabits Ceylon.

4. *BOS BUBALUS SEMINUDUS* has small horns, compressed sideways, taper, sharp pointed, and standing backwards. The rump and thighs are naked, whence the epithet *seminudus*, half-naked. It is small, of the size of a Welsh runt. The hair on the fore part of the body is bristly, and so thin, that the skin appears. On the rump are two dusky perpendicular stripes, and on the thighs, two transverse.

VI. *BOS CAFER*, the Cape buffalo, inhabits the interior part of Africa, north of the Cape of Good Hope, but does not extend to the north of the Tropic. They are said to be greatly superior in size to the largest English ox: they hang their heads down, and have a most ferocious and malevolent appearance. They will lie quietly in wait in the woods, and rush suddenly on passengers, and trample them, their horses, and even oxen of draught, under their feet. They are also found in the interior parts of Guinea. Sparman, describing one that was shot, says, 'the entrails perfectly resembled those of an ox; but were much larger, and indeed gave us no little trouble in clearing them away; for the diameter of this creature's body was full three feet: the length eight feet, the height five and a half, and the fore legs two and a half long; the larger hoofs were five inches over; from the tip of the muzzle to the horns was twenty-two inches. This animal in shape, very much resembled the common ox; but the buffalo has much stouter limbs, in proportion to its height and length. Their fetlocks hang likewise nearer to the ground. The horns are singular, both in their form and position: the bases are thirteen inches broad and only an inch distant from each other; by which there is formed between them a narrow channel, in a great measure bare of hair. Measuring them from this, the horns rise up in a spherical form, with an elevation of three inches at most. In this way they extend over a great part of the head, viz. from the nape of the neck to the distance of three inches and a half from the eyes; so that the part from which they grow out, does not occupy a space of less than seventeen or twenty inches in circumference. From hence bending down on each side of the neck, and becoming more cylindrical by degrees, they form a curve, the convex part of which is turned towards the ground, and the point up in the air; which, however, at the same time is generally inclined backwards. The distance between the points of the horns is frequently above five feet; the color is black; and the surface, to within about a third part, measured from the base, is very rough and craggy, with cavities sometimes an inch deep. The eyes are somewhat sunk within their prominent orbits. This, together with their near situation to the bases of the horns, which hang somewhat over its pendant dangling ears, and its usual method of holding its head inclined to one side, gives the buffalo a fierce and treacherous aspect. His disposition corresponds with his countenance. He hides himself among the trees, and skulks there till somebody comes very near him, when he rushes out at once and attacks him. Not con-

tent with killing the person whom he attacks, he afterwards tramples upon him with his hoofs and heels, and with his horns and teeth tears to pieces and mangles the whole body, stripping off the skin by licking it with his tongue. Notwithstanding this, the buffalo will bear to be hunted; though sometimes he will turn and pursue his hunter, whose only dependence in that case is upon the swiftness of his steed. The surest way to escape is to ride up a hill, as the great bulk of the buffalo's body prevents him from being able to vie with the fine limbed horse in swiftness; though, on the other hand, the buffalo, in going down hill, gets on much faster than the horse. The flesh of the buffalo is coarse and not very fat, but full of juice, and of a high and not disagreeable flavor. The hide is thick and tough, and is in great request with the farmers for thongs and harness; being the only halters that can be depended upon for securing horses and oxen; so that they cannot get loose by snapping them asunder, which they are otherwise apt to do when the lions and wolves make their appearance in the neighbourhood.'

VII. *BOS GRUNNIENS*, or hog cow, has short, erect, sharp pointed, cylindrical horns, bent outwards. The body is so hairy, that the hair hangs down upon its knees like a goat. The color of the body is black, but the front is white. It has bristles on its back and hind-legs, and it grunts like a hog. The tail resembles that of a horse, and is covered with very long flowing silky hairs. It is an inhabitant of the north of Asia. Mr. Kerr enumerates four varieties of this species, viz. 1. *B. grunniens ecornis*: 2. *B. grunniens ferus*, the wild grunting ox: 3. *B. grunniens ghainouk*, a domesticated variety of the wild breed: 4. *B. grunniens sarlyx*, a degenerated race, not particularly described.

VIII. *BOS INDICUS*, the Indian ox, with all its varieties, are considered by Gmelin, as varieties of the *bos taurus*; but, as Mr. Kerr observes, 'many of them have such remarkable differences as would constitute, in other genera, sufficient marks for specific distinction.' They have a large fatty lump on the shoulders. They differ much in size and in the form of their horns. Some are very large, and of a reddish color; with horns short, and bending close to the neck, others very small, with horns almost upright, bending a little forward. The following are the chief varieties: 1. *B. Indicus major*, with short horns bending backward, inhabits India, Africa, and Madagascar: 2. *B. Indicus minimus*; it inhabits Surat, and is used to draw children in small carts: 3. *B. Indicus minor*, the zebu, or little Indian buffalo, with short erect horns turned a little forwards, and a lump on the shoulders. It is the common beast of burden in India.

IX. *BOS MOSCHATY*, the musk ox of Hudson's bay, is about the size of a Scotch bullock; has a thick body and short legs. The horns are large, and are united at their origin in the skull; but immediately after, they fall down on each side of the crown of the head, then taper away small, the points turning up, and out. The horns of an old bull are about two feet in length, as well as in circumference, and weigh about thirty pounds each. The hair is black, and

grows to a great length; underneath which is a very fine ash-colored wool. The male only has the curious scalp; the female is covered with hair. They live in herds from thirty to eighty or a hundred. The bulls are very few in proportion to the cows. It is rare to see more than two or three full grown bulls with the largest herd; and from the number of males which at times are found dead, the Indians are of opinion that they kill each other in contending for the females at the rutting season.

X. *BOS PUMILUS*, the dwarf ox, has horns almost erect, which close at the base, recede in the middle, and approach at the points. It inhabits Africa, and was seen at Cairo by Belon, who says it came from Morocco. It is larger than a roe but less than a stag; has a thick neck, elevated shoulders, and short legs; the hair is brown and shining, and the tail is terminated by long and coarse hairs.

XI. *BOS TAURUS*, the domestic bull and cow, has cylindrical horns bent downwards, and loose dewlaps. The bull, or male, is naturally a fierce and terrible animal. When chafed, he has an air of sullen majesty, and often tears up the ground with his feet and horns. The principal use of the bull is to propagate the species; although he might be trained to labor, his obedience cannot be depended on. A bull, like a stallion, should be the most handsome of his species. He should be large, well made, and in good heart; he should have a black eye, and a fierce aspect; but an open front, a short head, thick, short, and blackish horns, and long shaggy ears; a short and straight nose, large and full breast and shoulders, thick and fleshy neck, firm reins, a straight back, thick fleshy legs, and a long tail well covered with hair. Castration remarkably softens the nature of this animal; it destroys all his fire and impetuosity, and renders him mild and tractable, without diminishing his strength; on the contrary, after this operation, his weight is increased, and he becomes fitter for the purposes of ploughing, &c. See Ox. The females of all those species of animals which we keep in flocks, and where increase is the principal object, are much more useful than the males. The cow produces milk, butter, cheese, &c. which are principal articles in our food, and besides answer many useful purposes in various arts. Cows are generally in season, and receive the bull from the beginning of May to the middle of July. Their time of gestation is nine months, which naturally brings the veal to our markets from the beginning of January to the end of April. However luxury has fallen upon methods of interrupting this natural course, and veal may be had almost every month in the year. Cows, when improperly managed, are very subject to abortion. In the time of gestation, therefore, they ought to be observed with more than ordinary care, lest they should leap ditches, &c. Neither should they be suffered to draw in the plough or other carriage. They should be put into the best pasture, and should not be milked for six weeks or two months before they bring forth their young. The cow comes to the age of puberty in eighteen months, but the bull requires two years; and it is better to restrain them till they

be full three years. From three to nine years these animals are in full vigor; but when older, they are fit for nothing but to be fed for the butcher. A milch cow, ought to be chosen young, fleshy, and with a brisk eye.

The criteria of a beautiful cow has been thus expressed.

She's long in her face, she's fine in her horn,
She'll quickly get fat, without cake or corn,
She's clear in her jaws, and full in her chine,
She's heavy in flank, and wide in her loin.

She's broad in her ribs, and long in her rump,
A straight and flat back, with never a hump;
She's wide in her hips, and calm in her eyes,
She's fine in her shoulders, and thin in her thighs.

She's light in her neck, and small in her tail,
She's wide in her breast, and good at the pail,
She's fine in her bone, and silky of skin,
She's a Grazer's without and a Butcher's within.

There is a great variety in the color of oxen. A reddish or black color is most esteemed. The hair should be glossy, thick, and soft; when otherwise, the animal is either not in health, or has a weakly constitution. The ox eats very quick, and soon fills his first stomach; after which he lies down to ruminate, or chew the cud. The first and second stomachs are continuations of the same bag, and very capacious. After the grass has been chewed over again, it is reduced to a kind of mash not unlike boiled spinnage; and under this form it is sent down to the third stomach, where it remains and digests for some time; but the digestion is not fully completed till it comes to the fourth stomach, from which it is thrown down to the guts. The contents of the first and second stomachs are a collection of grass and other vegetables roughly macerated; a fermentation, however, soon commences, which makes the grass swell. The communication between the second and third stomach is by an opening much smaller than the gullet, and not sufficient for the passage of the food in this state. Whenever then the two first stomachs are distended with food, they begin to contract, or rather perform a kind of reaction. This reaction compresses the food, and makes it endeavour to get out: now the gullet being larger than the passage between the second and third stomachs, the pressure of the stomach necessarily forces it up the gullet. The action of ruminating, however, appears to be in a great measure voluntary; as animals of this kind have a power of increasing the reaction of their stomachs. After the food undergoes a second mastication, it is then reduced into a thin pulp, which easily passes from the second to the third stomach, where it is still further macerated; from thence it passes to the fourth, where it is reduced to a perfect mucilage, every way prepared for being taken up by the lacteals, and converted into nourishment. What confirms this account of chewing the cud is, that as long as these animals suck, or feed upon liquid aliment, they never ruminate; and in the winter, when they are obliged to feed upon hay and other dry victuals, they ruminate more than when they feed upon fresh grass. Bulls, cows, and oxen, are fond of licking themselves, especially when lying at rest. But this practice

should be prevented as much as possible; for as the hair is an indigestible substance, it lies in the stomach or guts, and is gradually coated by a glutinous substance, which in time hardens into round stones of a considerable bulk, which sometimes kills them, but always prevents their fattening, as the stomach is rendered incapable of digesting the food so well as it ought. The age of these animals may be distinguished by the teeth and horns. The first fore-teeth fall out at the age of six months, and are succeeded by others of a darker color, and broader. At the end of sixteen months, the next milk teeth likewise fall out; and at the beginning of the fourth year all the fore teeth are renewed, and then they are long, pretty white, and equal: however, as the animal advances in years, they become unequal and blackish. The horns of oxen four years of age, are small, pointed, neat, and smooth, but thickest near the head: this thick part next season is pushed further from the head by a horny cylinder, which is also terminated by another swelling part, and so on (for as long as the ox lives, the horns continue to grow); and these swellings become so many annular knots, by which the age may easily be reckoned: but from the point to the first knot must be counted three years, and every succeeding knot only one year. The bull, cow, and ox, generally live about fourteen or fifteen years. Ox beef is very nourishing, and yields a strong aliment; the flesh of a cow when well fattened and young is not much inferior. Bull beef is hard, tough, and dry; for which reason it is not much used for food. Veal is well tasted, easy of digestion, and rather keeps the body open than otherwise. For the uses of the various parts of these animals, see Ox. The northern countries of Europe produce the best cattle of this kind. In general they bear cold better than heat; for this reason they are not so numerous in the southern countries. There are but few in Asia to the south of Armenia, or in Africa beyond Egypt and Barbary. America produced none of this species till they were carried there by the Europeans. But the largest are to be met with in Denmark, Podolia, the Ukraine, and among the Calmuc Tartars; likewise those of England, Ireland, Holland, and Hungary, are much larger than those of Persia, Turkey, Greece, Italy, and Spain; but those of Barbary are least of all. In all mountainous countries, as Wales, the Highlands of Scotland, &c. the black cattle are small, but hardy; and when fattened make excellent beef. In Lapland they are mostly white, and many of them want horns. The British breed of cattle, Mr. Pennant observes, has in general been so much improved by foreign mixture, that is difficult to point out the original kind of these islands. Those which may be supposed to have been originally British are far inferior in size to those on the northern part of the European continent; the cattle of the Highlands of Scotland are exceedingly small, and many of them, males as well as females, are hornless: the Welsh runts are much larger; the black cattle of Cornwall are of the same size with the last. The large breeds now cultivated through most parts of Great Britain, are either entirely of foreign extraction, or our own im-

proved by a cross with the foreign kind. The Lincolnshire kind derive their size from the Holstein breed; and the large hornless cattle that are bred in some parts of England, come originally from Poland. There are many varieties of this species: among which the following are mentioned by Mr. Kerr and Professor Gmelin. 2. *B. Taurus Abyssinicus*, the Abyssinian ox, has a hunch on its back, and the horns adhere to the skin only, and hang pendulous. It inhabits Abyssinia and other parts of Africa. 3. *B. Taurus Africanus*, the lant, is white and has elegant horns, slender legs and black hoofs. It inhabits Africa, and is swifter than most horses. The hide is said to be impenetrable by a bullet. Some reckon it a species of antelope. 4. *B. Taurus bison*, has horns reflected forwards, a hunched back and a long mane. It is white, and is supposed by Buffon to be the same with the bonasus and the ferus: but Gmelin ranks them as distinct. It is quite a different animal from the American bison. 5. *B. Taurus ferus*, the wild ox, inhabits the marshy woods of Poland, Prussia, and Lithuania. It is supposed to be the original stock of all the European domestic breeds. It has thick short horns, reflected forward, and a curly forehead. About 250 years ago there was found in Scotland a wild race of cattle, which were of a pure white color, and had, if we may believe Boethius, manes like lions. Mr. Pennant says, he cannot but give credit to the relation; having seen in the woods of Drumlanrig in North Britain, and in the park belonging to Chillingham castle in Northumberland, herds of cattle probably derived from the savage breed. The former appear to have been exterminated by the late duke of Queensberry. They had lost their manes, but retained their color and fierceness; they were of a middle size, long legged, and had black muzzles and ears; their horns fine, with a bold and elegant bend. They were wild as any deer; on being approached they would instantly take to flight, and gallop away at full speed; never mix with the tame species, nor come near the house, unless constrained to it by hunger in very severe weather. Frequent mention is made of our savage cattle by historians. One relates that king Robert Bruce was (in chasing one of these animals), preserved from the rage of a wild bull, by the intrepidity of one of his courtiers, from which he and his lineage acquired the name of Turnbull. Fitz-Stephen names these animals *uri sylvestres*, among those that harboured in the great forest, that in his time lay adjacent to London. Another enumerates among the provisions at the great feast of Nevil, archbishop of York, six wild bulls; and Sibbald assures us that in his days a wild and white species was found in the mountains of Scotland, but agreeing in form with the common sort. These were probably the same with the *bisontes jubati* of Pliny, found then in Germany, and might have been common to the continent and our island; the loss of their savage vigor by confinement might occasion some change in the external appearance, as is frequent with wild animals deprived of liberty; and to that we may ascribe their loss of mane. The urus of the Hercynian forest, described by

Cæsar (lib. vi.) was of this kind ; the same which is called by the modern Germans, *antochs*, i. e. *bos sylvestris*. 6. *B. Taurus Madagascariensis*, the boursy, or Madagascar ox, is of a large size, and white color, with pendulous ears, and a hunched back. It inhabits Adel and Madagascar.

BOSC (John du, lord of Esmandreville), president of the Court of Aids at Rouen, was one of the many martyrs to the protestant religion in France, during the bloody reign of Charles IX. Bayle gives him an excellent character. He was made counsellor and commissary of requests in 1554, and was promoted to the second presidency, January 26th, 1562; but was beheaded the 1st of November following, as one of the authors of the resistance of Rouen to the arms of the king. Le Laboureur says 'he was worthy of a better fate, having all the great qualities that are to be desired in an accomplished magistrate.' He wrote 1. *Joannis Boschæi Neustrii περί Δικαιογυμίας*, De Legitimis Nuptiis; 2. A Treatise of the Number Seven; 3. De Numæ Pompilii Sacris, a work which gave great offence to the Catholics.

Bosc (Peter du), the greatest protestant preacher of his age, was the son of W. Du Bosc, advocate of Rouen, and born at Bayeux in 1623. He studied at Montauban and Saumur, and made such rapid progress, that in 1645 he was chosen minister at Caen. He was soon considered as a perfect orator, and was repeatedly pressed to accept of the church of Charenton, but he and the people of Caen were so fond of each other, that nothing but persecution could part them. This began in 1664, when he was confined to Chalons by a *lettre de cachet*, but was liberated soon after, and the joy of the people of all persuasions was so great upon his return, that even the Catholics rejoiced; and one gentleman made two Franciscan friars so drunk upon the occasion, that one of them died on the spot. The bishop of Chalons was particularly kind to him. In 1665 he began to signalise his prudence as well as his eloquence, in defending the protestant churches against persecutions. In 1666, the king having published a declaration against them, all the churches sent deputies to Paris; but the drawing up their memorials was committed by the rest to M. du Bosc, who was deputed from those of Normandy. In 1668 he alone had an audience of the king, wherein he succeeded so well, that some melioration was obtained. And Bayle observes, if it had been possible to save the reformed churches by negotiation he would have done it. But in 1685 he himself was interdicted; whereupon he went to Rotterdam, where he was minister till his death in 1692. He published several volumes of sermons; and after his death, his son-in-law, M. le Gendre published a valuable collection of his memoirs, requests, petitions, &c. relating to the churches, with his speeches, letters, and poems, in Greek, Latin, and French.

BOSCAGE, *n. s.* *Boscage*, Fr., wood or woodlands. The representation of woods.

We bent our course thither, where we saw the appearance of land; and, the next day, we might plainly discern that it was a land flat to our sight,

and full of *boscage*, which made it shew the more dark. *Bacon.*

Cheerful paintings in feasting and banqueting-rooms; graver stories in galleries; landscapes and *boscage*, and such wild works, in open terraces, or summer-houses. *Wotton.*

BOSCAGE, among painters, a landscape representing much wood and trees.

BOSCAGE, or BOSCAGIUM, in law, 1. food which trees yield to cattle; as mast, &c. Manwood says, to be quit of *boscage* is to be discharged of paying any duty for windfall wood in the forest. 2. A tax on wood.

BOSCAN (John), a Spanish poet of the sixteenth century, born at Barcelona. He was the friend of Garcilasso de la Vega, another Spanish poet. They were the first who made any great improvement in the poetry of their nation, and their pieces were printed together. Boscan, who died about A. D. 1542, principally succeeded in sonnets.

BOSCAWEN (Edward), a brave British Admiral, was the second son of Hugh, lord viscount Falmouth. Having early entered into the navy, he was, in 1740, captain of the *Shoreham*; and behaved with great intrepidity as a volunteer under admiral Vernon, at the taking of Porto Bello. At the siege of Carthagena, in March 1740-1, he had the command of a party of seamen, who attacked and took a battery of fifteen twenty-four pounders, though exposed to the fire of another fort of five guns; and was appointed to the command of the *Prince Frederic* of seventy guns. In May 1742 he returned to England, and married Frances, daughter of William Glanville, Esq. and the same year was elected representative for Truro. In 1744 he was made captain of the *Dreadnought* of sixty guns; and soon after took the *Medea*, a French man of war, the first king's ship taken in that war. May 3d 1747 he signalized himself under admirals Anson and Warren, in an engagement with the French fleet off Cape Finisterre, and was wounded in the shoulder with a musket-ball; the whole ten French ships of war were taken. On the 15th July he was made rear-admiral of the blue, and commander in chief of the land and sea forces employed on an expedition to the East Indies; and on the 4th of November sailed from St. Helen's, with six ships of the line, five frigates, and 2000 soldiers. On the 29th July, 1748, he arrived at St. David's, and soon after laid siege to Pondicherry; but the men growing sickly, and the monsoons being expected, the siege was raised, and he showed himself as much the general as the admiral in his retreat. Soon after, he received news of the peace, and Madras was delivered up to him by the French. In April 1750 he arrived at St. Helen's in the *Exeter*, and found that in his absence he had been appointed rear admiral of the white. He was the next year appointed one of the lords commissioners of the admiralty, and chosen an elder brother of the Trinity house. In February 1755 he was appointed vice-admiral of the blue. On the 19th April he fell in with and took the *Alcide* and *Lys*, of sixty-four guns each. In 1756 he was appointed vice admiral of the white; and in 1758 admiral of the blue, and

commander in chief of the expedition to Cape Breton; when, in conjunction with general Amherst, and a body of troops from New England, the important fortress of Louisbourg, and the whole island of Cape Breton, were taken, for which he afterwards received the thanks of the House of Commons. In 1759, being appointed to the command in the Mediterranean, he arrived at Gibraltar, where, hearing that the Toulon fleet, under M. de la Clue, had passed the Straits, to join that at Brest, he got under sail, and on the 18th of August engaged the enemy. His ship, the *Namur* of ninety guns, losing her mainmast, he shifted his flag to the *Newark*; and, after a sharp engagement, took three large ships, and burned two in Lagos Bay, and the same year arrived at Spithead with his prizes, and 2000 prisoners. On December 8th, 1760, he was appointed general of the marines, with a salary of £3000 per annum, and was also sworn one of the privy council. He died in 1761.

BOSCH (Jacob Vanden), a painter of still life, was born at Amsterdam in 1636. He painted summer fruits of various kinds, with such natural and transparent color, that they appeared delicious, and almost real. He died in 1676.

BOSCHHAERTS (Thomas Willeborts), a celebrated painter, was born at Bergen-op-zoom; and when very young, exhibited decurved proofs of genius. He proved, under Gerard Segers, a most ingenious artist. Antwerp being at that time the seat of arts, he there executed such a number of noble pieces as added greatly to the splendor of that city. In 1642 Henry Frederic prince of Orange, and his son prince William, employed him in their service; and he painted portraits for most of the persons of quality then living. He died in 1670.

BOSCHAS, in ornithology, the common mallard, or wild duck, the specific distinction of which consists in the plumage being of a cinereous color; the tail-feathers decurved; bill strait; collar white.

Gmelin mentions several distinct varieties of this bird, in the *Syst. Nat.* the characters of which are described as follows:—*Cirrhata*, above gray, beneath white, crest cinereous; *Persica*, head and upper parts of the neck cinereous, beneath yellowish; major, back sooty. This is larger than the others, measuring two feet and a half in length; *grisea*, entirely cinereous, with the legs and bill black; *navia*, with the back black, spotted with yellowish; *nigra*, having the head and collar black.

In England only a small number of wild ducks are found in the summer; because, at that time, they remain in the more northern parts of Europe, and only return to us towards the winter. In France this species is not often seen till the winter; appearing in October, and again departing northward in the spring.

BOSCOVICH (Roger Joseph), a distinguished natural philosopher, was born at Ragusa, on the Adriatic, the 11th of May, 1711. Of the rank and circumstances of his parents, nothing has come down to us; and we are left to conjecture their condition in life from the education they gave to their son, which was both liberal and well directed. Boscovich, like many

others who have risen to eminence, did not display very marked tokens of ability at school; and even when he was sent to study philosophy under the Jesuits, who were, at that period, the principal guides of education in Italy, he seems to have attracted notice rather as a docile and regular youth, than as one from whom the sciences were destined to receive either cultivation or extension. In his fifteenth year he was admitted into that celebrated order, and was immediately sent to Rome, where he enjoyed great advantages as to the means of acquiring knowledge. Upon entering on the studies which were prescribed by the rulers of his fraternity, his mind received a new direction, but his assiduity and perseverance continued unabated; and after devoting two years to Christian ethics, and to the constitutions and rules of his order, he returned with avidity to extend his knowledge of the classics, and particularly of the structure and laws of Latin verse; an accomplishment which, at that time, was deemed essential to a perfect and elegant education. Having completed his novitiate, he was sent to the Roman college to study mathematics and physical science; and it was in these pursuits that his great talents first became conspicuous, and secured for him the admiration of his contemporaries. As a reward for his uncommon diligence and success, he was exempted from the operations of a statute by which novices were bound to teach Latin and the principles of composition, five years before entering upon the study of theology. In the theory of religion, however, he seems to have made very little progress. His mind was captivated with those researches only which led to the discovery of physical and mathematical truth; on which account, it is not surprising that his favorite authors belonged to the school of Newton, rather than those of Thomas Aquinas. His eminence, as a mathematical scholar, very soon pointed him out as the fittest person to fill the office of mathematical professor, in the Jesuit college at Rome. For this appointment he was, indeed, particularly well qualified, both by his knowledge of everything that modern science had effected, and also by his intimate acquaintance with the works of the ancient geometers. But his attention was not confined to the instruction of youth: he was already revolving in his mind some of those sublime and original conceptions which afterwards astonished the scientific world, and laid the foundation of his peculiar system of Natural Philosophy. In the public disputations, which were then practised in the schools, he advanced his opinions, with the view of ascertaining to what objections they were exposed, and also of deriving from the collision of kindred minds, whatever light could be thrown upon enquiries so far removed from the ordinary walks of human thought. While he performed the arduous duties of his professorship, he published tracts upon the following very important and difficult subjects:—the Transit of Mercury; the Spots in the Sun; the Aurora Borealis; the Construction of Spherical Trigonometry; the Figure of the Earth; the Ancient Arguments for the Rotundity of the Earth; a New Telescope to Determine Celestial Objects; Oscilla-

ting circles; on Infinites, and Infinitely little Quantities; the Motion of Bodies in Unresisting Spaces; the Aberration of the Fixed Stars; the Inequalities in Terrestrial Gravity, in Astronomy; on the Limits of Certainty in Astronomical Observations; on the Solid of Greatest Attraction; the Cycloid; the Logistic Curve lines; the Vires Vivæ; the Comets; Light; Tides; the Rainbow; the Calculation of Fractions, the Moon's Atmosphere; the Centre of Gravity; the Law of Continuity; Lenses and Dioptrical Telescopes; the Objective Micrometer; and the Divisibility of Matter. The variety and depth of the investigations constitute the strongest evidence that could possibly be advanced, in proof of the great industry and transcendent acquirements of Boscovich. Nor did his reputation fail to keep pace with his learning; for he was already known and admired over the greater part of Europe. Universities and other learned bodies conferred on him the highest marks of their esteem; and his presence was deemed an honor at the courts of princes. Pope Benedict XIV. and John V. king of Portugal, consulted him on architecture, hydrodynamics, and similar subjects; and he was employed to correct the topography of the papal states, and to measure a degree of the meridian there. But it was not only as a man of science that Boscovich stood high in the estimation of the world; he was also consulted and employed in a diplomatical capacity. He was commissioned by the senate of Ragusa to repair to London, to remove certain suspicions on the part of the British government, relative to some ships of war which were said to be fitting out in their port for the service of France, and was received by the learned in this country with a respect becoming his well-earned fame. In return for the attention shown to him by the Royal Society, he addressed to them an elegant Latin poem on the solar and lunar eclipses. He could not, however, comply with their invitation to join the members of that learned body who went to America in 1762, to observe the transit of Venus over the sun's disk. Upon his return to his native country he was appointed to be mathematical professor in the university of Pavia, and to superintend the astronomical observatory in the Royal College of Brera. After six years residence in this situation, he was preferred, by the empress queen, to the chair of astronomy and optics in the palatine schools of Milan: and here he might have ended his days in affluence and tranquillity, but for that signal and striking visitation which soon afterwards befel the order of which he had taken the vows.

The extensive influence of the Jesuits had long rendered them objects both of suspicion and fear, even among the best consolidated states of Europe. During the early part of the last century, their power was gradually undermined, and their members were treated with hostility, even by those who professed the warmest attachment for the Romish communion, and supported the other monastic societies. In 1773, accordingly, an edict was procured for demolishing the society of Jesuits; and, so strictly was it executed, that no exemption was afforded to the most eminent or respected of that celebrated brotherhood: all were proscribed, and stripped

of office and emolument; and Boscovich himself was obliged to seek refuge in the city of Paris. He was, indeed, appointed by the French government to be one of their directors of optics for the sea service, and received a pension; but he does not seem to have enjoyed much happiness in that country, or to have regarded his situation in any other light than that of a wretched dependence upon the generosity of rulers, who had been very active in creating the distress which compelled him to accept of it. His manners were naturally grave, and his temper somewhat irritable; while the painful reflection, that the Jesuits were no more, and that his own consequence was involved in their ruin, contributed not a little to embitter his life, and to render his society less agreeable to the gay and volatile people among whom he sojourned. After a residence of ten years, accordingly, he solicited leave to return to his native country; and, arriving at the city of Bassano, he published, in five vols. 4to, a collection of the Works which he had written at Paris. Upon leaving Bassano, he directed his course to Rome, to visit several distinguished persons who had been the companions of his youth, and were now the sharers of that contempt and suspicion which were everywhere pointed against their fallen order. He then proceeded to Milan, where he revised some of his own works, and also prepared for the press the poems of the celebrated Benedict Stay, who had written several volumes in Latin verse on the philosophy of Descartes. While thus employed, however, and enjoying the society of those friends to whom early affection and a common grief had engaged his heart, his leave of absence from Paris, which was limited to two years, drew to a close; and it thus became necessary either to return to the duties of his office, or to give in his resignation. He preferred the latter. He could not tear himself from the bosom of those who alone were able to amuse the languor of advancing age; and, although he was not insensible to the kindness of the French government, he came to a firm determination to withdraw himself from their patronage, and to relinquish every claim upon their attention. His life was now rapidly approaching its end. He had been some time subject to attacks of the gout; and other infirmities now pressing upon him, completely overcame his constitution, both in body and mind; and this distinguished and illustrious philosopher sunk into hopeless fatuity. After lingering five months in this melancholy condition, death terminated his existence, on the 13th of February, 1787, in the seventy-sixth year of his age. We would willingly, did our limits permit, exhibit an outline of the *Theoria Philosophiæ Naturalis* of Boscovich, but we must rest satisfied with a few general observations on its leading principles and object. It holds so much of the Leibnitzian hypothesis, as to teach, that the elements of matter are simple and unextended; but it departs from it, in denying the continued extension of these elements, and in asserting that they are perfectly homogeneous. With Newton, Boscovich maintained the existence of mutual forces or powers, which vary, according to the distance, by certain laws; but

he went further, in asserting that these powers are both repulsive and attractive, and that when either of these terminates the other begins. The theory of the *Philosophia Naturalis* seems to embrace, as its first principles, the following views—that the primary elements, or atoms of matter, are indivisible, unextended, simple, homogeneous, and finite in number; that they are dispersed in an immense space, in such a manner that their distance from each other may extend to any assignable interval; that this interval may be indefinitely enlarged or diminished, but cannot entirely vanish. From this doctrine it follows, that the contact of one atom with another is utterly impossible, because the greatest force with which the one could approach the other, could not overcome that repulsive power which prevents the vanishing of the interval which subsists between all individual elements of matter. This is indeed tantamount to the assertion, that the attractive power can never overcome the repulsive; but as it is impossible to explain this doctrine without the aid of diagrams, we shall not enter into it. On the subject of light, Boscovich adheres to the opinions of Newton, that it is an efflux or radiation of matter from the sun, propagated with immense celerity, and entering into certain bodies, from which it may be extricated by chemical analysis. Agreeably to this general doctrine, he maintains, that although the atoms of light are inconceivably numerous, they are still finite in number; and in explaining the wonderful properties with which the matter of light is connected, he calls in, with considerable success, the application of his principle relative to repulsion. His notions of electricity coincided with those of Franklin, which he reduces very ingeniously to the fundamental principles of his theory; and we are not certain but some of the late discoveries, by means of electrical energies, lend a considerable degree of support to the speculations of Boscovich. We may mention, in concluding, that our author also attempted to explain sensation on the principles of his philosophy, and arrived at conclusions similar to those of the Hartleian hypothesis, with respect to the vibrating motion of the nervous and cerebral matter as the organ of sense. It is enough, however, to have mentioned it; for every new attempt of this kind has only proved more convincingly, that the subject is placed at an immeasurable distance beyond the reach of human investigation.

BOSEA, Golden-rod Tree: a genus of the digynia order, and pentandria class of plants: *CAL.* is pentaphyllous; there is no corolla, the berry monospermous. Of this genus there is but one species, viz.: *B. yervamora*. It is a native of the Canary and Carribee islands. It has been long an inhabitant of the British botanic gardens, but has never been observed to flower in this country. A strong woody shrub, the branches come out very irregular, and make considerable shoots every summer, which should be shortened in spring.

BOSIMEN, **BOSHUANAS**, **BOSJESMANS**, or **BUSHMEN**, a species of Hottentots, so called, according to Sparman, from their dwelling in woody or mountainous places. They were compa-

ratively unknown to Europeans till visited by Mr. Trutter and Mr. Somerville, whose observations were given to the public by Mr. Barrow, in the appendix to his voyage to Cochinchina. Since that time several narratives of journeys amongst them have been published. Their territory is stated by Lichtenstein to extend from the twenty-fifth to the twentieth degree of south latitude, thirty or forty days journey north from the river Kuruhman. They are evidently of the same original stock with the Caffres, but somewhat altered; inferior in bodily strength and stature, they surpass them in civilisation and in the arts of life. Their towns are of considerable magnitude. Leetakoo was estimated by its first visitants to contain from 10,000 to 15,000 inhabitants; and though it has suffered by intestine broils, it seems still to contain 7000 or 8000. This city is the capital of the Matchappin tribe, the only one among the Boshuanas yet visited by Europeans. Beyond them are the Wanketzens, said to be more numerous, and their agriculture more improved, but they seem to be ferocious and treacherous. The Chojas, the Marootzees, and the Morolongs, are also mentioned as powerful and numerous tribes. The race seems to improve as it extends northwards, since the Macquanas, the most remote, are also the most numerous and most advanced in the arts. Mr. Salt supposes them to be the same who are called by the Portuguese, Makooanas, and who inhabit immediately in the interior from Mosambique. It was through them accordingly that the inhabitants of Leetakoo had first heard of white men.

The Bosjesmans are a species of Hottentots, who, although they do not live within the colony of the Cape, have been, and appear but too likely to be, long connected with its history and interests. Their name is connected with their habits, and derived, according to some writers, from their usual mode of attack, that is, from behind the thickets or bushes of the country: a great part of their lives is certainly occupied in predatory excursions. Mr. Campbell having asked one of a remote tribe 'for what end man was made?' the answer was, 'for plundering expeditions.' They neither rear cattle nor cultivate the ground; but subsist, when at home, on the larvæ of ants and locusts, which they are very dexterous in securing, the bulbs of the iris, and a few gramineous roots.

They speak a dialect of the same language as the common Hottentot, but are singularly opposed to him in the general vigor of their character. No human being can be more active and cheerful than the Bosjesmans; they emulate the antelope of their favorite fastnesses in agility, and a horse is not able to keep up with them over hilly, or even rough ground. In the day-time they confine themselves to the huts of their kraals, lest the boors should surprise them, and from 180 to 200 will thus herd together in the remote districts of the colony; but they will often dance the night entirely away, especially at the approach of summer.

Their kraals are composed of distinct huts, about three feet high and four wide, made of two mats, one of which is bent semicircularly

between two sticks, and left open before, the other closes the hut behind. In the centre the Bosjesman hollows a little circle to hold a whip of straw, on which he sleeps, coiled round some favorite domestic or hunting animal. When on their expeditions, however, the loftiest chasms of the mountains are their chosen retreats. Mr. Barrow observed the sides of some of these caverns to be ornamented with various sketches of animals, drawn with great truth and spirit. The upper part of the cave was completely covered with a black paint of a pitchy, bituminous character, supposed to be the poison used by the tribe. The weapons which they carry are a small hassagai, uniformly dipped in poison, and a bow and arrows of inferior size. From childhood they are inured to these weapons; and the boys of a kraal have their bows and well-furnished quivers. In these the men carry from seventy to eighty arrows at a time, with sticks to procure a fire by friction; their poison and poison brush; pieces of red ochre and iron; and shafts to repair their stock of arrows.

In stature the Bosjesmans are exceedingly diminutive; the men measuring only from four feet six, to four feet nine inches in height; and the women not more than four feet four inches. Their personal appearance is extremely forbidding. The high cheek-bones, rounded eye-lids, and flat nose, of the Hottentots are thrown into a hollow visage, in which the chin is very prominent, and a sharp rolling eye, gives a sort of ferocious intelligence to the whole. The men have no dress whatever, and the women only a Hottentot belt round the waist, of which the apron is cut in front into threads; they wear caps on their heads, and all the trinkets they can procure suspended from their tufts of hair about the neck. The men ornament themselves with a piece of wood or porcupine's quill suspended to the nose.

They practice bigamy; the elder men generally having one young wife, and another who is past child-bearing. The projection of the posterior part of the female in these tribes is still more monstrous than in the Hottentot women. If the letter S, it has been wittily observed, be considered as the one expressive of the line of beauty, to which degrees of approximation are admissible, the Bosjesman women are entitled to the first rank in point of form. A section of the body, from the breast to the knee, seems, in fact, the very shape of that letter. It is not to be forgotten, however, that the women of neither of these races are in any situation to check such a singular mode of growth, or to feel its awkwardness; and it may be questioned whether many of the laboring females in this country, are not as widely different in the general shape of their persons, from the higher ranks, who dress tighter and more carefully, as these women are from them. They also possess the other sexual peculiarity of the Hottentot female, which wholly disappears in both cases, on their marriage with an European.

In their dispositions, seen under every circumstance of provocation, and for ages goaded by the bad treatment of the Dutch, the Bosjesmans are sanguinary and wantonly destructive.

'Should they seize a Hottentot,' says Mr. Barrow, 'guarding his master's cattle, not contented with putting him to immediate death, they torture him by every means of cruelty that their invention can frame; as drawing out his bowels, tearing off his nails, scalping, and other acts equally savage. Even the poor animals they steal are treated in a most barbarous and unfeeling manner; driven up the steep sides of mountains, they remain there without any food or water, till they are either killed for use, or drop for want of the means of supporting nature.'

When a horde is surrounded by the farmers, and little chance is perceived by them of effecting their escape, they will fight it out most furiously, as long as a man shall be left alive. It frequently happens, on such occasions, that a party will volunteer the forlorn hope, by throwing themselves in the midst of the colonists, in order to create confusion, and to give to their countrymen, concealed among the rocks, or in the long grass, at the expense of their lives, an opportunity of exercising more effectually their mortal weapons upon their enemies, and at the same time to facilitate the escape of their wives and children. Their plundering expeditions are conducted not without system. If in carrying off their booty they should chance to be pursued, they always divide; one party to drive away the cattle, while the other continues to harass the pursuers; and when the peasantry prove too many for them, they stab and maim the whole herd with poisoned weapons. On all such plundering expeditions, they carry, in addition to their bows and arrows, lances that resemble the Kaffre's hassagai, but of a much smaller size, and always dipped in poison. Their bows are remarkably small, and, in the hands of any one but a Bosjesman, would be entirely useless. From their earliest infancy they accustom themselves to the use of the bow; all the little boys who came to us at the kraal, carried their bows and small quivers of arrows. A complete quiver contains about seventy or eighty, made like those of the Hottentots; and, in addition to these, a few small brushes to lay on the poison; pieces of iron, red ochre, leg bones of ostriches cut in lengths and rounded, and two little sticks of hard wood to produce fire. This is done by placing one horizontally on a piece of withered grass, and whirling the other vertically between the hands, with the point acting in a hollow place, made in the surface of the former. In a few seconds of time, the velocity and friction set the grass in a blaze.' See *An Account of the Cape of Good Hope*, 8vo.

BOS'KY, *adj.* Fr. *bosquet*, woody.

And with each end of thy blue bow dost crown
My *bosky* acres, and my unshrubbed down. *Shakspeare.*

I know each lane, and every valley green,
Dingle, or busby dell, of this wild wood,
And every *bosky* bourn from side to side. *Milton.*

BOSMAIFE, an island of Russia, in the province of Astracan, ten miles below the city. See ASTRACAN.

BOSNA SERAGNO, BOSNA SFRAI, or SERAI, a large town of Turkey, the capital of Bosnia, 110 miles south-west of Belgrade. It is generally garrisoned by Janissaries, and is surrounded by thick

turretted walls connected by an old citadel. Altogether they mount eighty pieces of cannon. Here are manufactures of lances, daggers, and other arms, in which is the chief trade. There are perhaps 500 Catholic and 100 Greek families interspersed among a population of 12,000. The town is an appanage to the mother of the sultan. Eastward are extensive fertile plains.

BOSNIA, a province of Turkey in Europe, bounded on the north by Slavonia, on the east by Servia, on the south by Albania, and on the west by Croatia and Dalmatia. It belongs entirely to the Turks: but they were on the point of being expelled from it by the Christians, when the Spaniards invaded Sicily, and obliged the emperor to conclude the peace of Passarowitz in 1718, by which he gave up Bosnia to the Turks. It is 200 miles long and 75 broad, containing about 13,200 square miles. Though mountainous, it contains fruitful spots, especially in the north. The breed of cattle is excellent, and the wool little inferior to that of Spain. Many of the sheep are sent to fatten on the banks of the Adige in Italy. Here are considerable iron mines, and some few of gold and silver. The inhabitants (*Bosniacks*) are of Slavonian origin, and use the purest dialect of the Slavonian language. They are generally of the Greek religion, but Mahommedanism is not uncommon, the towns being mostly inhabited by Turks. The total number of native inhabitants does not exceed 80,000; that of the Turkish militia is estimated at 50,000.

In ancient times the name of Bosnia was Pannonia Inferior; in the middle ages it had its own governors, who were vassals of the sovereign of Hungary; but in the wars between that power and the Turks, the latter succeeded in rendering Bosnia tributary. It continued so till 1463, when Stephen V. the last king of the country, was taken by Mahomet II. and flayed alive, after which his dominions were incorporated with the Turkish empire. The modern province is of greater extent than the ancient kingdom, and is divided into Upper and Lower; the whole forms the government of a pacha, under whom are eight deputy governors called *sandgiaks*. Lower Bosnia is made up of the above kingdom, and is divided into the three *sandgiaks* of Banjaluka, Orach, and Bosna-Serajo, so called from their chief towns. The last is the capital of the country, although the pacha has his seat at Travnik. Upper Bosnia (otherwise called from the river of that name the kingdom of Rama) consists of portions of Croatia and Dalmatia, with the province of Herzegovina, or duchy of St. Saba.

BO'SOM, *v. & n.* Ang.-Sax. *bosome*; **BO'SOM-FRIEND**, Dutch, *boesem*; Germ. *busem*; Junius derives it from *Boa*, *Boaka*, I feed; I nourish. Skinner and Wachter from the French *poser*, for reposer, to rest; to lean upon; because infants rest and repose upon the bosom. These appear, however, unsatisfactory to the etymologist in the *Ency. Met.*, and, with his usual research and acumen, he

has suggested what is ingenious, if not conclusive: as we already owe him so much, we shall, without scruple, lay him under further contributions. 'Those,' says he, 'whose ears are accustomed to the change of letters, will easily understand that *bosm* may arise from *fæthm*, and this *fæthm* from *fassen*, fatten, to seize; to embrace. In this uncertainty a new attempt to trace the word may be allowed. In Ang.-Sax. we have *bu-gan*, to bow; *bugsum*, *buhsum*. Hence, perhaps, *bosome*. In Dutch, *booghen*, to bow; *boogsæm*. Hence, perhaps, *boesem*. In German, *beugen*, to bow; *beugsan*; and hence, perhaps, *busem*. In confirmation it may be remarked, that the Latin *sinus*, and the Greek *κολπος*, are the bosom, and also a bay or bow. Bosom then may be so called from its form or shape; bowing; bending; curving; arching. It is also applied to that within, or beneath the bosom; as the heart; the feelings or passions; the affections; the desires of the heart: to bosom; to store; to treasure up in the bosom; to seat or fix deeply. The bosom of the deep, the bending surface of the deep; a bosom-friend, a friend of our affections; a friend affectionately beloved; entrusted with all the secrets of our bosom; the depository of our feelings and affections, and so of the other compounds.' *Ency. Met. Art. Bosom*.

And this chanon toke out a crosselet
Of his *bosome* and shewed it to the preest.

Chaucer's Cunt. Tales.

Soone her garments loose
Upgathering, in her *bosome* she comprized,
Well as she might, and to the goddesse rose;
Whiles all her nymphes did like a girlond her enclose.

Spenser.

There with thy daughter Pleasure they doe play
Their hurtlesse sports, without rebuke or blame,
And in her snowy *bosome* boldly lay
Their quiet heads, devoid of guilty shame. *Id.*

Unto laws thus received by a whole church, they which live within the *bosom* of that church, must not think it a matter indifferent, either to yield, or not to yield, obedience.

Hooker.

Bosom up my counsel,
You'll find it wholesome.

Shakspeare.

Our good old friend,
Lay comforts to your *bosom*; and bestow
Your needful counsel to our businesses. *Id.*

If you can pace your wisdom
In that good path that I could wish it go,
You shall have your *bosom* on this wretch. *Id.*

This Antonio,
Being the *bosom-lover* of my lord,
Must needs be like my lord. *Id.*

Whose age has charms in it, whose title more,
To pluck the common *bosoms* on his side. *Id.*
No more that Thane of Cawdor shall deceive
Our *bosom-interest*; go, pronounce his death. *Id.*

Those domestic traitors, *bosom-thieves*,
Whom custom hath called wives, the readiest helps
To betray the heady husbands, rob the easy.

Ben Jonson.

So have I often seen a purple flower,
Fainting through heat, hang down her drooping head,
But soon refreshed with a welcome shower,
Begins again her lively beauties spread,
And with new pride her silken leaves display;
And while the sun doth now more gently play,
Lays out her swelling *bosom* to the smiling day.

Fletcher's Purple Island.

I do not think my sister so to seek,
Or so unprincipled in virtue's book,
And the sweet peace that *bosoms* goodness ever.

Milton.

Towers and battlements it sees,
Bosomed high in tufted trees,
Where perhaps some beauty lies,
The cynosure of neighbouring eyes.
To whom the great Creator thus replied :
O son, in whom my soul hath chief delight,
Son of my *bosom*, Son who art alone
My word, my wisdom, and effectual might !

Id.

Id. *Paradise Lost*.

The fourth privilege of friendship is that which is here specified in the text, a communication of secrets. A *bosom-secret*, and a *bosom-friend*, are usually put together.

South.

I feel death rising higher still and higher
Within my *bosom* ; every breath I fetch
Shuts up my life within a shorter compass.

Dryden's Rival Ladies.

He sent for his *bosom-friends*, with whom he most confidently consulted, and shewed the paper to them ; the contents whereof he could not conceive.

Clarendon.

From jealousy's tormenting strife
For ever be thy *bosom* freed.
She, who was a *bosom-friend* of her royal mistress, he calls an insolent woman, the worst of her sex.

Prior.

Addison.

To happy convents, *bosomed* deep in vines,
Where slumber abbots, purple as their wines.

Pope.

No further seek his virtues to disclose,
Or draw his frailties from their dread abode ;
There they alike in trembling hope repose,
The *bosom* of his father and his God.

Gray.

The only art her guilt to cover,
To hide her shame from every eye,
To give repentance to her lover,
And wring his *bosom* is—to die.

Goldsmith.

Not the soft sighs of vernal gales,
The fragrance of the flowery vales,
The murmurs of the crystal rill,
The vocal grove, the verdant hill,
Not all their charms, though all unite
Can touch my *bosom* with delight.

S. Johnson.

Reply not—tell not now thy tale again ;
Thou lov'st another—and I love in vain ;
Though fond as mine her *bosom*, form, more fair,
I rush through peril which she would not dare.

Byron's *Corsair*.

BO'SON, *n. s.* corrupted from boatswain.

The barks upon the billows ride,
The master will not stay ;
The merry *boson* from his side
His whistle takes, to check and chide
The lingering lads' delay.

Pope.

BOSPHORICUM MARMOR, a name given by the ancients to a species of marble, of a yellowish white colour, with beautiful veins of a somewhat darker hue ; called also, from its transparency, phengites.

BOSPHORUS, or BOSPORUS, from βους, a bullock, and πορος, passage ; in ancient geography, a long and narrow sea, which it is supposed a bullock may swim over. In a more general sense, it is a long narrow sea running in between two lands, or separating two continents, and is chiefly confined to two straits in the Mediterranean sea, viz. 1. Bosphorus Cimmerius, or the Scythian Bosphorus, so named from its resemblance to the Thracian ; and, 2. Bos-

phorus Thracius, the Thracian Bosphorus, now commonly called the Straits of Constantinople, or the Channel of the Black Sea, the strait through which the Black Sea pours its waters into the Propontis, or Sea of Marmora. It is called Bogaz by the Turks, and divides Europe from Asia. It is about a mile broad, between Constantinople on the European side, and Scutari on the Asiatic. Tournefort supposes the name to have arisen from the ox market being held near this strait.

BOSQUET (Francis), a learned prelate of France in the seventeenth century, was born at Narbonne, and studied at Toulouse. Before he took orders he had been intendant of Guienne and Languedoc, attorney-general of Normandy, and counsellor of state. In 1648 his friend John de Plantavit resigned his bishopric of Lodeve to him. In 1655 he was made bishop of Montpelier, and continued so till his death, in his sixty-third year, A. D. 1676. His works were, 1. A History of the Gallican Church ; 2. History of the Eight Popes who resided at Avignon ; from 1300 to 1394 : 3. The Liberties of the Gallican Church : and, 4. Notes on the Canon Law.

BOSQUETS, in gardening, from *boschetto*, Ital. a little wood ; groves or compartments in gardens, formed by branches of trees disposed either regularly in rows, or wildly and irregularly, according to the fancy of the owner.

BOSS, *v. & n.* ' Bosse, Fr. from *pusa*, Bos'SED, } which is formed from *φύσα*, Bos'SY. } *φύσσω*, *inflo* ; *φύσα*, *pusa*, *busa*, *bussa*, *bosse*. From *pusa* the Latins formed *pusula*, *pustula* (a *pustule*). *Menage*. ' Bosse, *bokeler*, shield, or the knoll of a hill.' *Kilian*, *Bosseln*, to push out ; to force ; to protrude.—*Wachter*. ' Boss, res quasi extumescens ; any thing rising up.'—*Skinner*. A boss is, therefore, any thing rising or raised up ; swollen ; projecting ; thrusting ; or pushing forth.' *Ency. Met*. ' An ornament raised above the rest of the work ; a shining prominence ; protuberances on ancient bucklers or bridles.

Johnson.

He runneth upon him, even on his neck, upon the thick bosses of his bucklers.

Job xv. 26.

A broche she bare upon hire low colere,
As brode as is the *bosse* of a bokelere.

Chaucer. *Canterbury Tales*.

And on her shoulder hung her shield, bedeckt
Upon the *bosse* with stones that shined wide,
As the faire moone in her most full aspect ;
That to the moone it mote be like in each respect.

Spenser.

True is that I at first was dubbed knight
By a good knight,—the knight of the red-crosse ;
Who, when he gave me armes in field to fight,
Gave me a shield, in which he did endosse
His deare Redeemer's badge upon the *bosse*.

Id.

What signifies beauty, strength, youth, fortune, embroidered furniture, or gaudy bosses ?

L'Estrange.

This ivory, intended for the bosses of a bridle, was laid up for a prince, and a woman of Caria or Mæonia dyed it.

Pope.

A boss, made of wood, with an iron hook, to hang on the laths, or on a ladder, in which the labourer puts the mortar at the briches of the tiles.

Moxon.

If a close appulse be made by the lips, then is framed M ; if by the boss of the tongue to the palate, near the throat, then K.

Holder.

There they formed

Their ardent virtues: in the *bossy* piles,
The proud triumphal arches; all their wars,
Their conquests, honours, in the sculptures live.
Dyer's Ruins of Rome.

BOS'SAGE, *n. s.*, in architecture, any stone that has a projecture, and is laid in a place in a building to be afterwards carved. Rustic work, which consists of stones, which seem to advance beyond the naked of a building, by reason of indentures or channels left in the joinings: these are chiefly in the corners of edifices, and called rustic quoins.

BOSSE, a glass bottle, used in the French artillery, very thin, and containing four or five pounds of powder. Round the neck four or five matches are hung, after it has been well corked; a cord, two or three feet in length, is tied to the bottle, which serves to throw it. The instant the bottle breaks, the powder catches fire, and everything within the immediate effects of the explosion is destroyed or injured.

Bosse (Abraham), an able engraver, born at Tours, well skilled in perspective and architecture. He wrote two treatises, which are esteemed: the one on the manner of designing, and the other upon engraving.

BOSSEIA. In botany, a genus of plants, class diadelphia, order decandria; *cal.* two-lipped, the upper lip heart-shaped; legume pedicelled, compressed, many-seeded. One species only, *B. petrophylla*; a New Holland shrub.

BOSSU (René le), born at Paris in 1631, was admitted a canon regular in the abbey of St. Genevieve in 1649; and, after a year's probation, took the habit. He taught literature with great success in several religious houses for twelve years. He then published a parallel betwixt the principles of Aristotle's natural philosophy, and those of Des Cartes, with a view to reconcile them; which was but indifferently received. His next treatise was on epic poetry; which Boileau declared one of the best compositions on that subject in the French language, and which produced a friendship between them. He died in 1680, and left a great number of MSS.

BOSSUET (James Benigne), bishop of Meaux, was born of an ancient family at Dijon, in 1627. He was placed, while young, under the care of the Jesuits, who, on the discovery of his abilities, sought to gain him for their order; he was removed to Paris, and entered at the college of Navarre; and in 1652 took his degrees in divinity. He afterwards went to Mentz, where he was made a canon. Here he applied himself to the study of the Scriptures and the fathers, especially of St. Augustin; until, becoming a celebrated preacher, he was invited to Paris, and appointed to preach before the king. He was particularly celebrated for his funeral orations. At court he maintained an unusual dignity and independency of character; and, without any solicitation on his part, was created bishop of Condom, a dignity which he resigned in 1670, on being appointed preceptor to the dauphin. In this situation he wrote for his pupil his celebrated Discourse on Universal History. When the prince's education was completed, Louis XIV. raised him to the see of Meaux, and appointed him counsellor of state,

and almoner to the dauphiness and duchess of Burgundy. He was also made a member of the French Academy and superior of the Royal College of Navarre. The leisure which he now enjoyed, was devoted to the defence of the Catholic church, both against infidels and Protestants; and some years before his death he retired to his diocese, and devoted himself to the duties of his functions there. While thus engaged he died in 1704, at the age of seventy-seven. His Exposition of the Roman Catholic Faith, addressed principally to Protestants, was nine years waiting the approbation of the pope. The points on which he chiefly lays stress, are the antiquity and unity of the churches, and the accumulated authorities of fathers, councils, and popes. He was ably answered by Claude and other ministers of the French Calvinists, as also by archbishop Wake, who, in his Exposition of the Doctrine of the Church of England, exposes the management and artifice used in the suppression and alteration of Bossuet's first edition. This great ornament of the French church was zealous for the re-union of the churches, but nothing was to be yielded as a matter of right. He was not an advocate for the infallibility of the pope, or for his assumed right of deposing kings. On the contrary, he resisted these doctrines with energy, and lost a cardinal's hat by opposing Innocent XI. in claims contrary to the independence of the crown and clergy of France. But though a profound enemy to persecution, he raised no remonstrances against the cruel treatment of the Hugonots by Louis XIV.

BOSTANGI BASCHI, or chief gardener, in the Turkish affairs, an officer who has the superintendence of the gardens, water-works, and houses of pleasure, with the workmen employed therein, one of the most considerable posts in the Turkish court.

BOSTON, a corporation and market town of Lincolnshire, which sends two members to parliament, is commodiously seated on both sides of the Witham, over which it has a cast-iron bridge, newly erected, and, being near the sea, enjoys a good trade. Its name is an abbreviation of Botolph's town, from Botolph, a Saxon, who had a monastery here, and is supposed to have been its founder. It had formerly, besides St. Botolph's monastery, a priory, four friaries, and three colleges, whose lands Henry VIII. gave to the town. It had likewise two churches, St. John's and St. Botolph's; the former of which has long since gone to decay, and not the least remains of it are now visible; the church-yard is however used as a burying-ground. St. Botolph's church is a handsome structure of the ornamented, pointed architecture, and is the largest parochial church known without cross aisles, being 300 feet long within the walls, and 100 feet wide. It is ceiled with English oak, supported by tall slender pillars; it has 365 steps, fifty-two windows, and twelve pillars, answerable to the days, weeks, and months of the year. Its tower, the highest in Britain, was begun to be built in the year 1309, and is 282 feet from the level of the river, having a beautiful octagon lantern on the top, which is a guide to mariners as they enter the dangerous channels of Lynn and Boston Deepes;

and may be seen forty miles round the country. The architecture of the whole is light, yet magnificent. The interior is furnished with a good organ, a clock with chimes, and eight bells.

The market-place is spacious, and is ornamented by a handsome market cross, in which is a good chamber appropriated to the purposes of corporation meetings, card assemblies, &c. Here is also a handsome theatre, with generally a good company of actors. Among the charitable foundations are, a free grammar-school, two charity schools, a general dispensary, and two national schools on Bell and Lancaster's plan. It has also a neat theatre. Here are, besides, several places of religious worship for dissenters; the town, of late, has been much extended, and considerably improved by lighting, paving, and cleansing the streets, deepening the river, and enlarging the harbour. The public libraries and news-rooms are well supported and furnished; the market-place is spacious, and is ornamented with a handsome cross, and commodious assembly-room. In the reign of Henry I. a gang of desperadoes, who came to the fair in the disguise of monks and priests, set fire to Boston; but by its thriving trade it soon recovered the damage sustained. The Hans-Towns established a guild for wool here, but when the prohibition on the importation of wool was passed, the trade gradually declined: however, the enclosures of late years, and its navigation, have again revived its consequence. In 1772 the corporation built a good fish-market, by which the town is well supplied with both sea and river fish. Besides a considerable export of oats and other grain, it has a growing trade to the Baltic for hemp, tar, timber, &c. The neighbouring country being rich marsh land, it feeds vast numbers of sheep and oxen, remarkable for their size and fatness: and the fens have been largely enclosed of late, and yield noble crops of oats. The town was first incorporated by Henry VIII.; and Elizabeth gave the corporation a court of admiralty over all the neighbouring sea-coasts. It is governed by a mayor, recorder, twelve aldermen, and eighteen common council, with a judge-advocate, town-clerk, &c. The members are elected by the resident freemen, who pay scot and lot. Boston was the birth-place of John Fox the martyrologist. It is thirty-six miles S.S.E. of Lincoln, and 116 N. of London.

Boston, the metropolis of Massachusetts, and one of the most flourishing of the Eastern States of North America, was founded in 1630, and is situated in Suffolk county, in a peninsula of about four miles in circumference, at the head of Massachusetts Bay. Here originated that resistance to the British authorities which terminated in the independence of the United States. The isthmus which connects this peninsula to the main land is at the S.S.W. end of the town. It is not very regularly built, but lies in the form of an amphitheatre on a rising ground, around the head of the bay, which gives it an agreeable appearance in sailing up the harbour. This is one of the best in the United States, safe from every wind, and accessible at all seasons for vessels of the greatest burden. Five hundred vessels may ride at anchor here; yet the entrance, defended by two

forts, is so narrow, that but two ships can get in a-breast. About eighty wharfs face the harbour; the amount of shipping arrived here in 1815, was 143,420 tons, the greatest amount belonging to any part of the Union, except New York.

The neighbourhood is fertile and populous, connected with the capital by noble roads, while the Middlesex canal opens a wide communication with the interior. Charlestown, but one mile to the north, is connected with this canal, by a bridge over the river Charles. The public buildings of Boston are a state-house, court-house, work-house, a council-chamber, a treasurer and secretary's office, a bridewell, and a powder magazine, besides seven public schools, and eleven churches for congregationalists, episcopalians, baptists, quakers, and Roman catholics. Several humane and literary societies are also incorporated, for benevolent purposes, and supported with great liberality. On the west side of the town lies the Mall, a handsome public walk, ornamented with several rows of trees. Beacon Hill has an elegant monument erected in commemoration of some of the most important events in the Revolution. Although now so flourishing, no town in the United States has been more retarded in its progress than Boston. In 1676 a fire consumed forty-five houses, a church, and several storehouses. In 1697 another fire destroyed eighty houses, seventy warehouses, and several ships. In 1727 it was much damaged by an earthquake. In 1747 the court-house and public records were burnt. In 1760 houses and property to the amount of 444,000 dollars were destroyed by fire, which also did much damage in 1761 and 1764. During the siege of 1775 upwards of 400 houses were destroyed by the British troops. In 1787 above 100 houses were burnt; and July 30th, 1794, forty houses, seven rope-works, and several storehouses, were entirely consumed, to the amount of 200,000 dollars. In consequence of these disasters, an order was at this time made by the town authorities, that no houses should hereafter be built of wood to the height of more than two stories.

Boston, EAST, or what may be called the Old Town, consists of numerous streets, lanes, and alleys, having little regularity or convenience; but they are clean, and for the population contained, and the business conducted here, preserved in good order. There are, however, some spacious streets, such as State and Common Streets, and a few others. The former being on a line with Long-wharf, where strangers usually land, exhibits a flattering idea of the town. Several new streets, consisting of large stores and warehouses, connect it with India wharf.

Franklin Place, adjoining Federal Street theatre, is a great ornament to the town. It contains a monument of Dr. Franklin, who was a native of this town, and is encompassed on two sides with buildings, which, in point of elegance, are not exceeded in the United States. Here are kept, in capacious rooms, given and fitted up for the purpose, the Boston library, and the valuable collections of the historical society. Most of the public buildings are handsome, and some of them are elegant. A magnificent new state-house, of which the foundation stone was laid in 1795, has

been built upon the south side of Beacon Hill. The lower part is constructed in a plain and simple style of architecture, with red brick. The extent of the front is 173 feet, and over the centre rises a spacious dome, terminated by a circular lantern, 100 feet above the foundation. The prospect from this is magnificent, surpassing everything else of the kind perhaps in the United States. The town, with its numerous buildings, the harbour, islands, shipping, a fine country interspersed with villas, and about twenty flourishing towns, are to be seen here. Other important improvements have also been executed. On the south side of State Street, stands a very lofty and extensive hotel, under the direction of one of the principal merchants in the town. The house is seven stories high, and occupies a large extent of ground.

An extensive range of lofty warehouses has been erected upon India wharf: they are built of red brick, with much neatness and uniformity. Offices for the merchants are below, and the upper part of the building is appropriated to the reception of goods. A short distance from these warehouses, to the northward, is Long Wharf, or Boston Pier, which extends from the bottom of State Street, upwards of 1750 feet into the harbour. Its breadth is above 104 feet. On the north side of this wharf is a range of large warehouses, extending the whole length of the pier. Most of the old buildings have been pulled down, and handsome warehouses, similar to those on India Wharf, erected on their sites. The ground floors of these warehouses are occupied by wholesale or retail stores, merchants' offices, &c. The upper parts are appropriated to the warehousing of goods. At the end of this pier there are upwards of seventeen feet of water at ebb tide.

BOSTON, Wesr, contains the dwelling houses of the principal merchants. A number of elegant buildings have been erected here within these few years, and wide spacious streets, consisting of handsome private houses, are still forming throughout that end of the town. Boston is well paved, and has excellent foot-paths of flag-stones. The markets are situated near each other, close to the water side, and are supplied with every description of provisions in the greatest plenty. Besides its connexion with Charlestown, it is also united by a bridge 3,840 feet long, with the town of Cambridge; both bridges are kept in good order by the produce of a cent. toll. The population, in 1800, was 24,937; in 1820, 43,000. It is 252 miles north-east of New York; 347 north-east of Philadelphia, and 500 north-east of Washington.

BOSTON (Thomas), a pious divine of the church of Scotland, who flourished about the end of the seventeenth century. He wrote many books on divinity, which were long extremely popular. Among these, his illustration of the Assembly's Catechism, his Treatise on the Covenant, his Human Nature in its fourfold State, and his Crook in the Lot, have gone through a vast number of editions.

BOSTRICHUS, in entomology, a genus of coleopterous insects, whose distinguishing cha-

acters are the antenna clavated, the club solid; thorax convex, with a slight margin; head inflected, and concealed under the thorax.

BOSWELL (James, Esq.) of Auchinleck, the son of the Hon Alexander Boswell, lord Auchinleck, was born at Auchinleck in 1740, and studied the civil law at Edinburgh. In 1760 he visited London, for which place he ever retained a partiality; and was desirous, at this period, of a commission in the guards; but was withheld by parental authority. In 1763 he went to Utrecht, and proceeded through Switzerland to Italy, where he contracted an intimacy with Paoli of Corsica. He returned to Scotland in 1766, and, being admitted an advocate, was employed in the celebrated Douglas cause, the particulars of which he published in a pamphlet. In 1768 he printed *An Account of Corsica*, of which Dr. Johnson spoke in high terms. The year following he married Miss Mary Montgomery, his cousin, who, at her death in 1790, left him two sons and three daughters. In 1782 he lost his father, on which he removed to London, with a view to professional practice, but never succeeded; the only appointment he obtained was that of recorder of Carlisle. In 1785 he published *A Journal of a Tour to the Hebrides*, which met with a favorable reception; as likewise did his more important work, *The Life of Samuel Johnson, LL.D.* which appeared in 1790, in 2 vols. 4to, and forms one of the most exquisite and amusing delineations of character in our language. Mr. Boswell was also the author of *Two Letters to the People of Scotland*, printed in 1783; the *Hypochondriac*, a series of papers in the *London Magazine*, and several *Miscellaneous Pieces* in various periodical publications. He died in London in 1795.

BOSWORTH, a market town of Leicestershire, on a high hill, memorable for the decisive battle fought near it between Richard III. and the earl of Richmond, afterwards Henry VII. The church is spacious, with a very beautiful spire. Various fragments of sundry lances, &c. are shown as having been ploughed up at Redmore or Bosworth Field. It has a market on Wednesday, and fairs May 8th, and June 10th. It is 13 miles north-east of Leicester, and 106 N.N.W. of London. Long. 1° 18' W., lat. 52° 40' N.

BOTAGIUM, in middle age writers, a fee paid for wine sold in butts.

BOTALE FORAMEN, in anatomy, an aperture in the heart of a fœtus, whereby the blood circulates, without going into the lungs, or the left ventricle of the heart.

BOTALLUS (Leonard), physician to the duke of Alençon, and to Henry III. was born at Asti in Piedmont. He introduced at Paris the practice of blood-letting, which was condemned by the faculty; though soon after his death it came into rather too general practice. He wrote, 1. *De Curandis Vulneribus Sclopetorum*, 1560, 8vo. 2. *Commentarioli duo, alter de Medici, alter de Ægroti*, Munere, 8vo. 3. *De Curatione per Sanguinis Missionem*, 1583, 8vo. His works were collected and published at Leyden in the year 1660.

B O T A N Y.

BOT'ANY, } Gr. *βοτάνη*, a herb, herb-
 BOT'ANIST, } age; relating to herbs; skilled
 BOTAN'ICAL, } in herbs; a part of natural
 BOTAN'ICK, } history which relates to vege-
 BOTANOL'OGY. } tables; the science of plants.

Botanist, one who studies the various species of plants. Botanology, an oration or discourse upon plants.

Some *botanical* critics tell us, the poets have not rightly followed the traditions of antiquity, in metamorphosing the sisters of Phaeton into poplars.

Addison.

The uliginous lacteous matter, taken notice of by that diligent *botanist*, was only a collection of corals.

Woodward.

Then spring the living herbs, beyond the power Of *botanist* to number up their tribes. Thomson.

While *botanists*, all cold to smiles and dimpling, Forsake the fair, and patiently—go simpling.

Goldsmith.

1. BOTANY, considered in its details, treats of the elements, of the immediate principles, of the internal and external structure, of the functions, of the organs, and of the similitudes and dissimilitudes of the almost infinite multitude of beings of which the vegetable world is composed.

2. Chemistry explains the constituent elements and the immediate principles of vegetables; anatomy and physiology indicate the structure of their system and the uses of their parts; botany, properly so called, teaches us to compare, to describe, and to name plants, and to class them according to the mutual affinities which are indicated by their external characters.

3. In this article it is not proposed to enter into any investigation of chemical botany, which has no practical relation to the study of the science, and which more properly forms a part of the science of chemistry. The heads into which the following remarks will be divided are, 1. The analogy of the science; or of the differences which exist between vegetables and other animated beings, and of their resemblances. 2. The history of the science. 3. The anatomy and physiology of plants. 4. Pure botany, comprehending the theory and principles of the science, its terminology, and its classifications.

I. OF THE ANALOGY OF THE SCIENCE.

4. Among the multitude of beings which cover the surface of our planet, man only is possessed of the intellect which raises him above other animals. The latter are the mere slaves of their feelings, or of instinct; but man, whose only laws act upon his own free will, by the operations of the mind, is divested of the mere sense of necessity or of want, and directs his intelligence to the examination and knowledge of the other beings which constitute that glorious nature which has been formed for his advantage. The infinite variety of forms, and the imposing appearance of those objects which surround him, not only offer him matter for admiration, but carry him yet further; he is induced to study the laws

by which they act or live, the qualities, whether useful or injurious, which they possess, and the affinities which they bear to himself and to each other. God, mind, and matter, are the subjects of the meditation of man. But if he would devote himself to all the departments of knowledge, which are included under these three great names, his natural weakness would compel his mind to sink under the exertion.

5. Hence the origin of sciences, into which all nature is divided by certain limits. By the aid of analysis, the fruit of intellectual observation, all knowledge is separated into different branches; and though the boundaries of the sciences are confined in appearance, that limitation has been the means by which each has been brought to its present state of perfection, and by which the knowledge of one science has been made to bear upon that of another.

6. On the one hand, intellect has given rise to what are called the intellectual or moral sciences; on the other hand, observation has created the natural or physical sciences; and these are divisible under three heads, that is to say, PHYSICS, medically considered, CHEMISTRY, and NATURAL HISTORY. The physician directs his attention to the properties and maladies of matter in general; the chemist considers the action of its elements; and the naturalist studies the phenomena of particular parts.

7. The district of the naturalist is confined to what are called the three kingdoms of nature; and no limits can appear more certain or decided than those within which these kingdoms are confined. The *mineral* kingdom is composed of brute matter, and is only susceptible of increase, by the juxtaposition of the substances which combine in its formation. *Vegetables* are furnished with organs, by means of which they assimilate and adapt to their purposes the elements which surround them; but, fixed by the hand of nature to one spot, they are incapable of other movements than those which are peculiar to their organisation, or than those which are communicated by neighbouring bodies. But *animals* which are endued with similar properties in many respects, and which are propagated in like manner by peculiar organs, are also furnished with instinct, which teaches them how to distinguish their aliment, and to move from place to place. But do these limits absolutely exist in nature, or are they the imperfect creatures of the mind of man? And is not all nature connected by an inconceivable and inextricable multitude of affinities, crossing and interlacing each other in all directions, in such a manner as to render it impossible for us to circumscribe any one of her works within bounds so absolute that she will not be found overlapping them in some corner or another? It will probably be found that the affirmative is the answer to these suggestions, and that the deeper becomes our knowledge of the productions which occupy our minds, the more numerous the exceptions will be found to every law by which man in his ingenuity has

fancied that he has fettered those operations of nature from which his own existence has been derived.

8. What, for example, is a vegetable? This word is in every body's mouth, and yet no one has hitherto been able to define it in so exact a way as to fix the certain line by which the vegetable is to be distinguished from the animal. In this respect men of science are not to be separated from the multitude, except that they have acquired the habit of doubting, to which they have been conducted by study and meditation.

9. The division of minerals, vegetables, and animals, already spoken of, has been long admitted; and if we judge only by our first impressions, the distinction is not to be shaken. There is certainly something imposing in that simple manner of regarding the works of the creation; but, if we think upon it scrupulously, we shall be at no loss to perceive that it cannot be applied with precision, as we have no means of ascertaining at what particular point either sensation or sensibility cease to exist.

10. For this reason many modern philosophers reject the division of the three kingdoms, and admit only two great classes, of organic and inorganic substances. The latter class embraces all brute matter; fluids, gas, minerals. The molecule of which these are composed are subject to the laws of chemistry, physics, and mechanics. The other class includes animals and vegetables; their constituent molecule are in a perpetual state of motion. The organised particles of which these molecule are constituted are irritable, that is to say, susceptible of contraction, upon the application of particular stimulants; a wonderful power, the effects of which we are daily called upon to admire, but the first cause of which, like all other first causes, is beyond the perception of the human mind, and is designated by the appellation of the vital principle.

11. Endowed with this power, an organic body is able to offer resistance to such external causes as are prejudicial to it, to reject such substances as are useless or hurtful, to select those which are best adapted to its nature, to associate and dispose them according to the laws of its peculiar organisation, to communicate to them the motion which animates its molecule, to increase in volume, and finally to reproduce other beings of the same nature as itself. In the opinion of an ingenious Frenchman, the process of generation and nutrition, rightly considered, are two modifications of one and the same phenomenon. It is, therefore, irritability which distinguishes to our perception animals and vegetables from brute matter. But if irritability is absent, no fixed line of demarcation can be assigned.

12. Brute matter is formed by the attractive power of its elements. Organic bodies owe their existence to beings of their own kind. The first ceases to exist whenever the powers of chemistry or mechanics become greater than those by which the aggregation of the molecule of matter is maintained. The second perish when the organs necessary to their existence lose their irritability.

13. The limits of organic and inorganic bodies may, therefore, be considered to be ascertained with tolerable, if not with rigid, precision. The differences between vegetables and animals must now occupy our attention. A glance at the peculiarities of each will show in what these differences consist.

14. If we cast our eyes only upon the higher orders of plants and animals, in which organisation is in its highest state of perfection and development, no difficulty will be found in perceiving how wide a difference reigns between them. But in the lower orders of each, these differences vanish away. We will consider the connexion of animals and vegetables, both in their most perfect and most imperfect state.

15. And, firstly, their most perfect state of organisation. Carbon, oxygen, hydrogen, and occasionally azote, constitute the basis of vegetables. Occasionally metallic oxides, and some alkalies and earths are found also, but they exist in very minute quantities, and cannot be said to form any part of the peculiar character of vegetables. Animal matter offers the same compound; but differs remarkably in this, that while carbon is in excess in vegetables, azote is in excess in animals. A vegetable is wholly composed of an homogeneous, transparent, flexible, colorless substance, forming a mass, in which, by the aid of powerful microscopes, we are able to detect no other organisation than what is caused by the cohesion of an infinite multitude of tubes or cells, of various conformation. In animals, the structure is far more complex. Three organic elements enter into their composition. The first is the cellular tissue, which is a mass of membranous and continuous cellules, the cavities of which communicate with each other through pits or perforations in their sides; the second is the irritable fibre, consisting of long filaments, evidently possessing a power of contraction, composing the muscles by their union, and lining the arterial tubes and the intestinal canal; the third is the medullary substance; an homogeneous pulp, which presents to the eye, when examined through a microscope, a conglomeration of minute globules. The brain, the spinal marrow, and the nerves, are composed of this substance. Animals are furnished with an intestinal canal, usually open at each extremity. One orifice is for receiving aliment, the other for voiding that part of the food which is useless for nutrition. The intestinal canal is furnished, for a part of its length, with pores, which absorb the nutritive molecule, and throw them into 'the torrent of circulation.' Plants have no intestinal canal, and their absorbent pores are diffused over all parts of their surface. For this reason, Aristotle and Boerhaave designated plants by the title of animals turned inside out.

16. But, if we consider the distinctions between those animals and vegetable substances which are imperfect in the greatest degree, we shall find that nearly all these discrepancies are non-existent. The infusorial animalculæ are, for the most part, formed with nothing more than an intestinal canal, with two foramina; or, as a well-known writer has observed, they are all stomach. Among plants, the genera *Palmella*, *Echimella*,

Protococcus, and many others, possess the same simplicity of anatomical structure. The power of motion, which is believed to be the peculiar attribute of animals, equally exists in the genus *Oscillatoria* of vegetables. The propagation of the polype, by separation into many parts, is precisely the mode of increase which takes place in many *Conferve*. As to the distinction of irritability in animals, and non-irritability in vegetable bodies, it is one of those problems which, perhaps, will never be solved. That the presence of nervous and muscular fibre is not essential to even animal irritability, as some have supposed, is obvious from the infusoria, in which neither muscle nor nerve exist, and which are, notwithstanding, endued with irritability. It is probable that every organic body, which possesses the capability of development, is, from that circumstance alone, irritable, although the power of contraction may not be always manifest; for nutrition, or the power of assimilating foreign substances, and incorporating new molecular with themselves, which living beings possess, and of subjecting them to the laws of organisation, of necessity supposes a force of suction which attracts the nutritious juices. But how is suction to take place otherwise than by the alternate contraction and expansion of the absorbent vessels? The phenomena of nutrition are, therefore, a proof of irritability; and since plants increase, it is clear that they possess powers of nutrition, and consequently are irritable. Besides which, many exhibit motions, as in the *Oscillatoria*, above alluded to, and in the common sensitive plant, which cannot be explained upon the ordinary laws of physics, and which may be supposed to result from a power of contraction, of what may be called the muscular fibre.

17. Plants are operated upon in the same way as animals, by the application of poisonous or corrosive substances.

18. M. F. Marcelet, of Geneva, has lately published the result of some curious experiments respecting the effect of both mineral and vegetable poisons upon the system of vegetables. His observations were chiefly made upon the common kidney bean (*Phaseolus vulgaris*), and a comparison was always made with a plant watered with spring water. 'Until now,' the author observes, 'plants have been supposed to be distinguished from animals by the absence of organs corresponding to the nerves of the latter class; but the results of my experiments tend to prove that they are capable of being affected by such poisons, in a manner analogous to that in which animals are affected by them.' His experiments may be divided into those in which metallic poisons were employed, and those in which vegetable poisons were the agents. *Metallic poisons*.—A vessel, containing two or three bean plants, each with five or six leaves, was watered with two ounces of water, containing twelve grains of oxide of arsenic in solution. At the end of from twenty-four to thirty-six hours, the plants had faded, the leaves drooped, and had even begun to turn yellow. Attempts were afterwards made to recover the plants, but without success. A branch of a rose tree was placed in a solution of arsenic, and in twenty-four hours, ten grains

of water, and 0.12 of a grain of arsenic had been absorbed. The branch exhibited all the symptoms of unnatural decay. In six weeks a lilac tree was killed, in consequence of fifteen or twenty grains of moistened oxide of arsenic having been introduced into a slit in one of the branches. Mercury, under the form of corrosive sublimate, was found to produce effects similar to those of arsenic. But no effect was produced upon a cherry tree, by boring a hole in its stem, and introducing a few globules of liquid mercury. Tin, copper, lead, muriate of barytes, a solution of sulphuric acid, and a solution of potash were, found to be all equally destructive of vegetable life. But it was ascertained, by means of sulphate of magnesia, that those mineral substances which are innocuous to animals, are harmless to vegetables also. *Vegetable poisons*. In the experiments with vegetable poisons, the bean plants were carefully taken from the earth, and their roots were immersed in the solutions used. It had been previously ascertained, that a plant so transplanted and placed in water, under ordinary circumstances, would remain in excellent health for six or eight days, and continue to vegetate as if in earth. A plant was put into a solution of nux vomica, at nine in the morning. At ten o'clock the plant seemed unhealthy, at one the petioles were all bent in the middle, and in the evening the plant was dead. Ten grains of an extract of *Cocculus mernispermum*, dissolved in two ounces of water, destroyed a bean plant in twenty-four hours. Prussic acid produced death in eighteen hours; laurel water in six or seven hours; a solution of *Belladonna* in four days; alcohol in twelve hours. From the whole of this experiment, M. Marcelet concludes, 1st. That metallic poisons act upon vegetables nearly as they do upon animals. They appear to be absorbed and carried into different parts of the plant, altering and destroying the vessels by their corrosive powers. 2nd. That vegetable poisons, especially those which have been proved to destroy animals by their action upon their nervous system, also cause the death of plants. Whence he infers that there exists in the latter a system of organs which is affected by poisons nearly as the nervous system of animals.

19. From these experiments it is impossible not to perceive that the fibrous tissue of plants and of animals, as well as their absorbent vessels, are acted upon in the same way by the application of injurious matter, whence it must be concluded, that a strict similarity exists between the two kingdoms in that particular.

20. In sensibility, as distinguished from irritability, or in the possession of a nervous system, there is now scarcely room for doubting that plants agree with animals. The discoveries of Dutrochet show that in the system of vegetables a matter exists which is altogether analogous to the nerves of animals. The latter are composed of an agglomeration of an infinite number of minute globular particles, which are concretescible by the action of acids, and resolvable by the application of alkalis. In the sensitive plant, Dutrochet has ascertained that sensibility depends upon the presence of a vast number of

particles, which are affected by chemical agents in the same way as the nerves of animals. They line the cellular tissue, and are plentifully distributed over the tubular and spiral vessels, or tracheæ.

21. Neither can the power of perception be denied to exist in some plants, in as distinct a state as in many animals. We see that the former move, that they seize little insects, that they retreat from the approach of danger, and that they appear to possess a faculty of selecting that nourishment which is best adapted to the peculiarities of their structure. Can any one attribute the power of sense to zoöphytes, to corallines, and deny its existence in the *Dionæa*, or the sensitive plant? is it possible to ascribe it to the *Infusoria*, and to refuse it to *Oscillatorias*? surely, no argument can be employed in justification of such an opinion, except such as may be deduced from analogy. And let us see to what such an argument may be imagined to amount.

22. On one hand, considering that zoöphytes perform motions precisely similar to those which are peculiar to animals visibly provided with nerves and muscles, we should conclude that the motions of zoöphytes have a similar origin; and on the other hand, bearing in mind that the small number of plants which perform what appear to be voluntary motions are, in all apparent respects, organised in just the same way as other plants which have no such motion, we are equally justified in inferring that those plants in which no motion is observable have the same power of contraction as the others, but in an insensible degree.

23. In their different modes of generation, animals and plants are remarkably similar. Envelopes more or less hard and numerous; an embryo concealed within these envelopes; a small quantity of nutrition ready prepared for the early use of the young being; these are common both to the seed and the egg. A double foramen exists in the ova of many of the lower animals, as in frogs; it is equally present in the seed, or ovula, of nearly all plants. If almost all animals have eggs, so have almost all plants seeds.

24. Many vegetables have no seed; many animals have no eggs. Both are multiplied by the extension and natural separation of their peculiar substance. On the surface of many polypes are found little tubercles, which generally enlarge, become detached, and form, at a greater or shorter distance from the parent stock, other polypes, which soon become capable of increasing by the same means. *Conferæ* are known, in several cases, to increase in precisely the same way. Of what degree of precision then is the most perfect of the following definitions of a plant; proposed by observers who are placed at the head of their science? Stones grow; vegetables grow and live; animals grow, live, and have perception. *Linnaus*. A plant is a compound organic body, deriving nourishment from the soil in which it grows. *Link*.

II. HISTORY OF THE SCIENCE.

25. The physical sciences are generally supposed to depend almost entirely upon the powers of human observation for their perfection and

final development; and it was formerly admitted as an incontrovertible axiom, that philosophical induction, or metaphysical classification, had little or no effect upon the actual amount of ascertained facts; or, which is the same thing, upon the elements of science. It has been a common belief, that the classification of natural objects, has no other end than that of forming a sort of index to the science of natural history, and that systems bear the same relation to sciences as alphabets to languages. With regard to botany, the description of a plant, with a detail of its qualities in medicine or art, actual or supposed, was the utmost which was formerly attempted by the most celebrated writers; and it certainly was never by such persons for a moment supposed, that an acquaintance with the mutual relations and affinities of the vegetable kingdom, would in any degree influence the discovery of new objects. But the experience of modern times has shown, that directly the reverse of this opinion is consonant with facts, and that so long as the mind remained occupied in no other manner than in the acquisition of new plants, without knowing in what way to appreciate their respective peculiarities, discoveries continued to be made slowly, and to be of little value when made. As soon, however, as botanists arrived at the art of arranging, upon philosophical principles, the materials which they possessed, their attention was strongly directed towards supporting their respective systems by the addition of new objects and new facts. Their minds were excited by the hope of undiscovered forms enabling them to fill up chasms, which, they could not fail to perceive, existed in the most perfect methods known to them; and the strenuous investigations instituted on this account, naturally brought them acquainted with an abundance of subjects, the existence of which the imperfection of their previous knowledge could not have led them to suspect. Thus we perceive, that during the space of more than 5500 years, from the creation of the world to the time of *Cæsalpinus*, a period during the greater part of which botany was an humble art, necessarily, from its intimate connexion with the wants of mankind, the study of physicians, the whole number of recorded plants of all descriptions scarcely equalled the quantity now produced, under the auspices of science, by the investigations of a twelvemonth.

26. In the east, at first the only seat of erudition, the greatest care was taken to acquire a knowledge of the beneficial or noxious qualities of different natural productions. The Chaldeans communicated their knowledge to the Egyptians, and these to the Greeks. In Greece, where, indeed, real science first originated, *Æsculapius* attempted, by means derived from the vegetable kingdom, to cure some diseases. Medicine soon became intimately connected with religion. In the temples dedicated to the worship of the gods, the prescriptions of *Æsculapius* were publicly hung up, and the priest alone undertook the examination and the search of officinal plants, and the treatment of different diseases. They were, as followers of *Æsculapius*, called *Æsclepiades*.

27. The father of medicine, Hippocrates, added to the observations of Æsculapius a great many of his own, and first published several works on medicine. In his writings, the diseased and healthy state of man are fully treated of, and in speaking of the methods of cure, he has mentioned about 234 plants. But these are only names. Hippocrates was born about 459 years before Christ, at the Island of Cos. He lived to a very old age, though on that point authors differ, some saying he lived to be 89 years old, some 90, others 104, and a few indeed 109. The plants he mentions can scarcely be guessed at; for though great natural philosophers and linguists have attempted, long ago, to fix them properly, notwithstanding all their endeavours they still remain very doubtful.

28. Among the ancients, Thales, the Milesian, holds the earliest station as a philosopher. He perceived in the whole range of natural bodies nothing but mind, demons, and a divine nature. As the ocean was the parent of his gods and goddesses, so was water the primitive origin of all created things. Aristotle conceives that the humid state of all nutriments, and the aqueous nature of all seeds in the beginning, gives a plausibility to this hypothesis. *Metaph.* i. 3.

29. Pliny testifies to the deep knowledge of Orpheus in the properties of plants, but Pythagoras the Samian is the first who is known to have written any treatise upon botany. This philosopher procured his information from the Egyptian Magi. He first taught the miraculous uses of the *Scilla maritima*, in prolonging life; the bulb pickled in vinegar was affirmed to gift the vinegar with the power of extending the period of human existence to the hundred and seventeenth year. He declared the virtues of Anise against the bite of scorpions, the power of *Brassica*, and of *Sinapis*.

30. Empedocles, of Agrigentum, one of the disciples of Pythagoras, wrote a poem on the agency of the four elements. He conceived that plants were formed from the united agency of fire and earth, that they grew upwards through the influence of the former element, and downwards by the action of the latter, that air was diffused through their branches, earth through their roots.

31. This opinion may, however, be rather considered as part of the doctrines of the exoteric philosophers, who adopted the notions of the poets about the origin of things, and supported them by the subtlety of materialism. That plants are animated beings they held to be proved by the motions of which they are susceptible, and by the elasticity of their branches, which, when bent, resume their natural position, as soon as the external power is removed. They believed that plants were all subject to a metamorphosis into animals, or the contrary; and that no man could be sure that he had not, at some period of his existence, been a plant, a bird, or a fish. For this reason the laurel was held to be the noblest of trees, as being that into which man is translated after death. They admitted that the sexes were united in plants: but they supposed that they became separated upon the change into animals.

They were moreover believers in the presence of a soul in plants; of a peculiar nature, indeed, but endued with intelligence and *γνώσις*, appetites and sensations. Even reason was ascribed to them by Sextus Empiricus. He declared that they were propagated by eggs, in the way of animals, and that their leaves were analogous to the hairs of animals, and the scales of fishes, that their root performed the functions of head and mouth, because it was through it that nutriment was introduced into the system.

32. Similar opinions were held by Anaxagoras, of Clazomeene, who also thought that earth was the mother and the sun the father of vegetation. That their spiritus, or soul, was absorbed from the air by their leaves, and exhaled by the same organs.

33. Democritus the Abderite, who spent his early life in travelling through Persia and Egypt, adopted the notions of the Magi respecting the supernatural powers of herbs. He is said to have composed a work upon their hidden and miraculous virtues.

34. These and a few more are those who are supposed to have existed previously to the time of Aristotle. Among their opinions it is curious to observe how much of truth, even in their abstract speculations, is mixed with the fables of their poets. It is evident that they were acquainted with the sexes of plants, and with the principle that all vegetables proceed from ova. Some light was also possessed upon the functions of leaves.

35. But it was with Aristotle that the real origin of natural science must be said to have arisen. That extraordinary man embraced in his observations the whole circle of nature, from the structure and generation of the *Sepia*, the *Nautilus*, and other similar animals, to the elephant and to bipeds. That he paid extensive attention to plants is to be inferred from his own statement, that he had written two entire books upon the subject. He calls these books a *Theory of Vegetation*, and, in another place, he promises that he will enter at large upon the nature of vegetables. These books are even cited by Diogenes Laërtius, v. 25, Athenæus, xiv. xviii. p. 652, and by the scholiast Nicander, v. 645, p. 42. The books which have come down to our time are, however, believed to be forgeries. They correspond neither with the gravity, the dignity, nor the erudition of Aristotle. But much may be gathered from the genuine writings of this classic, as to the nature of the opinions which he held respecting plants, as forming a particular portion of animated nature; and most especially as to his ideas of their analogies with animals. He appears to have applied himself, with incredible industry, and most remarkable ingenuity, to the discovery of their relative degrees of organisation, and of those functions and phenomena which bore upon his own philosophical system. He was the first to conceive the speculative notion of a continuous chain of organisation, in which the most perfect beings gradually degenerate into an imperfect state. 'Nature,' he declares, 'is continually progressing from inanimate objects to animals, and this through beings which are animated, indeed, but which

are not animals; so small is the difference which exists in nature between proximate beings. As among marine animals many may be found whose dis severed limbs maintain a separate life, so among plants morsels of the epipetron (*Sedum acre*), suspended from a nail, will nevertheless retain their vitality for a long period.² In another place, he repeats the same remarks, and adds a comparison between plants and his ostracodermata or shell-fish. He believes that the latter are, in fact, plants, if considered with respect to the gradations of other animals, for most marine animals manifest a power of sensation very obscurely, and others in no degree whatever. In a third place, he pronounces plants to be a sort of terrestrial ostracodermata, and the latter to be marine plants. In the same proportion as water is more prolific of life than land, in the same degree are ostracodermata more vivacious than plants. He conceives that the main difference between plants and animals consists in the absence of excrementitious matter from the former; whence the roots, which absorb only such nutriment, as is already prepared, may be said to make use of the earth and of its heat, as a stomach and intestine. The minute quantity of excrementitious matter which is parted with by plants has an agreeable odor, whilst that of animals is almost always the reverse. He believed with Anaxagoras, that the nature of plants was hot and dry, and that earth was the mother and the sun the father of vegetation. Whence he thought might be explained the greater richness and fragrance of fruits and flowers growing on a hot soil under a burning sun. Aristotle admitted only one end in vegetation, which was the generation of fruits. Whence, the more imperfect were animals, the more similar they became to plants in this respect. All the nutrition and increase of plants appeared to him to tend to this object. He thought that the power of absorbing nutriment, and the mere circumstance of food being necessary to plants, rendered it impossible to deny their sensation, and hence a vital principle. He denied the separation of sexes in plants by which he gained an additional argument as to their affinity with the imperfect animals; in which the union of sexes in the same individual had been observed. The mixture of sexes, which had been assumed by Empedocles, was received as an axiom by Aristotle. *Gener. Anim.* iii. 10. Aristotle was not, however, free from the errors of his age, or from the love of wonders and miracles. He asserted that the *Ruta* flourished best when grafted on the fig-tree.

36. This philosopher was succeeded by various writers, whose works are now almost wholly unknown, but who do not seem to have thrown any new light upon the philosophy of botany, but to have confined their observations to the properties of herbs and roots. They are now known only by the quotations of their works in the books of later botanists. Here it will be sufficient to enumerate their names. They are Thrasyas and his disciple, Alexius, whom Theophrastus judges to have been more skilful than his master. Eudemus, Aristophilus, Cleidemus, Menestor, who entertained the remarkable notion that aquatic plants are naturally warmer than ter-

restrial, because they are not killed by the winter's frost; Hippon, Diogenes, who taught that plants are the consequence of a mixture of earth and putrid water, Leophanes, and Androtion. Besides these, Eumachus, Anacreon, and Micton, are thought to have lived before the time of Theophrastus, but this is uncertain.

37. If Aristotle is to be considered the founder of the philosophy of botany, the adaptation of his opinions to practice is, as far as we now know, to be ascribed to his friend and disciple Theophrastus, born in the year 370 B. C. Such was the fame of this philosopher that, when his master retreated to Chalcis, he succeeded to his school, whither no less than 2000 disciples repaired. In his *Historia Plantarum*, he described all the plants which were known in his day, either by description or actual observation. The text of that part of his work which has descended to our days is remarkably corrupt, but much light has been thrown on it by the critical acumen of the learned Sprengel. No order is pursued in arranging his descriptions, the same name is often applied to extremely different plants, and his opinions upon abstract matters do not seem to have been different from those of Aristotle. He was a believer in the transmutation of species, and even genera, and treats at large upon the subject. His nomenclature of the parts of plants is the first upon record in which an attempt was made to attach precise ideas to particular terms; and in this he succeeded remarkably well. The physiology, or 'the physick' of trees was understood by him in a manner which necessarily gives us a high opinion of the state of philosophical knowledge at his day. He distinguished between the structure of the trunks of palms and other trees, or, in modern terms, between monocotyledones and dicotyledones. He discovered that nutrition was conveyed to plants through their leaves, but he attributed this power to both surfaces alike. The sexes of plants were not unknown to him, but his ideas on the subject were incorrect. In short, that part of his history which appertains to vegetable physiology offers a mass of observation and reasoning, which is well worth consideration even at the present day.

38. Little is known of the Alexandrian school, which succeeded Theophrastus. Diphilus, who lived in the time of Lysimachus, first discovered the use of asparagus as a pot herb; and described for the first time the *Persica coccumela* or peaches. A manuscript of the works of Cratæus is preserved in the library at Venice, but it contains no information of importance.

39. When the Romans became masters of Greece, they adopted the writings and opinions of the latter country so completely, that there is in natural history scarcely any additional information in the writings of all their naturalists. Some inconsiderable additions were made to the list of plants, but very little change took place in the opinions held of the nature and properties of beings.

40. To pass by the agricultural writers, Cato, Varro, Diophanes, Virgil, Columella, and others, who are by some moderns ranked in the list of Roman botanists, the first author whose writings are of present value is Pedacius Dioscorides, who flourished in the time of Nero. Attached

to the Roman army, he traversed Greece, Italy, and Asia Minor, in which countries he collected many new plants. But, in his history, he described by far the greater part of those he mentions, upon the authority of others. He was acquainted with no method of arranging his plants, which were frequently classed from some similarity in their names, rather than in their nature. His descriptions are so imperfect, that the name only is given of many plants. His catalogue, however, of the plants of Greece and Italy, was by far the most complete which had been compiled in his day.

41. He was followed by Caius Plinius Secundus, who was born in the twenty-third year of our era, under Tiberius Cæsar. The fame of this remarkable man has reached to all the corners of the civilised earth, and he is on all hands pronounced to have been the father of natural history. He was a person of great learning, considerable acuteness, and unwearied industry. His reading was more extensive than that of any of his predecessors or contemporaries, and his writings are reported to have been scarcely less voluminous. Judging from the books upon natural history, which have come down to our time, his high reputation may be stated to have been very little deserved, except on the score of industry. They chiefly consist of almost literal compilations from the works of his predecessors, especially of Dioscorides. The arrangement of the matter is uncertain and empirical; the descriptions of his subjects meagre, vague, and unsatisfactory; the qualities assigned to them fanciful, childish, and unphilosophical. The advantages he possessed of having visited the most remote of the Roman provinces, in the capacity of a general officer, were turned to small account by him in discovering new objects of natural history. In a word he must be pronounced to have been a mere compiler without observation, experience, or judgment.

42. Galen succeeded Pliny, and turned the great powers of his mind to the subject of botany, but in a medical view only. So that a few new plants were all which natural science derived from his labors.

43. Thus much has been said upon the state of botanical knowledge up to the time of Galen, in order to make it appear what was the actual amount of discoveries during the first epoch of natural science. It is worthy of remark, that the period was fraught with fanciful conjectures, and often ingenious hypotheses; but that philosophy was unaided by experience, and that metaphysical speculations usurped the place of accurate observations.

44. In the early ages of the world, the science therefore, which is now called botany, consisted of a collection of names, and exceedingly imperfect descriptions of plants; either entirely unarranged, or combined according to their supposed qualities in medicine, or in human economy.

45. The race of botanists who succeeded the classics, were physicians or mere simplers, who cared for no classification beyond that which enabled them to arrive at an imaginary knowledge of the powers and effects of the few herbs which

were imported for pharmacy, or which grew in their vicinity. Even after the revival of learning in Europe, the same ideas were entertained, and a proportional progress was made in the acquisition of knowledge. The second race of botanists, or those who existed after the dark ages of Europe had passed away, were the commentators upon the writings of the first race; men of some learning, indeed, but in the deepest ignorance of the subject they undertook to illustrate; monks, whose practical knowledge extended not beyond the walls of their monastery, and who depended for all the information they found necessary to their purposes, upon the assistance they could derive from the few copies of the Arabian physicians, which their own or their monastic libraries might chance to possess. Science in the hands of such men, would, it may be easily believed, retrograde rather than make advances towards improvement. So that, up to the time of Vincentius Bellovacensis, who has been called the Pliny of the middle ages, and whose *Speculum Quadrupartitum* was published in 1494, the second volume of which is devoted to the subject of natural history, it may be safely affirmed, that no progress whatever, in modern times, had been made in botany; the whole of this author's materials having been borrowed from Aristotle, Dioscorides, Isidorus Macer, Pliny, Avicenna, Platearius Actor, and Cassius Felix, an obscure writer, whose works are lost. But the practical ignorance of the monks was not the only evil which impeded the advance of physical knowledge. They were in many instances deplorably unlearned in the languages from which they borrowed their opinions. With Arabic, the only source to them of new ideas, they were in most instances imperfectly acquainted: and the degree of knowledge which they possessed, even in the Greek language, was so low, that they were led into the commission of continual errors, in translating the fables of classical writers into the dreams of themselves. Another and a more serious consequence than the decline of science, was the result of this deplorable state of botanical learning, which, as a modern writer has justly observed, was so desperate that it is not more surprising that it should have arrived at it, than that it should ever have been extricated from it. By a frequent misinterpretation of the Arabic writers, it not unfrequently came to pass, that properties were ascribed to plants which were directly the reverse of those which the original authors attributed to them; a curious instance of which occurred with respect to the cinnamon. This was for a long time considered a deadly poison, in consequence of Nicolaus Myrepsicus, a Greek physician, who flourished in the thirteenth century, having translated *dar-sini* the name given to the cinnamon by the Arabians, by the word *ἀρσενικον*.

46. The time, however, arrived, when some truly learned men undertook the exposition, not only of the blunders of their contemporaries, but of the ignorance or corrupt text of those original authors in whom a blind confidence had for so many ages been reposed. The bold attack of Hieromolau Barbarus upon Pliny, and of Nicolaus Leoniceus upon Serapio, and the Arabian

writers, the one published at the end of the fifteenth century, the latter at the commencement of the sixteenth, put an end to the delusion under which the world had labored for so long a time. These men fearlessly tore the mask from before the face of the impostors of their day, and boldly succeeded in convincing the world that the ignorance of antiquity had been mistaken for the experience of ages; and a new impulse was given to the pursuits of naturalists, not only by these writers, but also by the declaration of Collenuti, an earnest defender, indeed, of the originality of Pliny, that 'non satis esse ad herbariam perdiscendam tradendamque, herbarios scriptores legere, plantarum videre picturas, Græca vocabula inspicere, magistri unius verbis additum esse, sed rusticos montanosque homines interrogare oportere.'

47. To particularise all the obscure writers, who existed up to this period, would be an unprofitable waste of space and attention. All kinds of learning had been brought to so low a state of degradation, by the insane and stupid madness of the worthless men who sanctified their acts under the cloak of religion, and who, in their pretended zeal against paganism, destroyed all the fountains of knowledge, that there was scarcely an author upon botanical matters, during this long period, who deserves to be handed down to posterity. Between the first and the early part of the sixteenth century, natural history may be considered a blank, during which that description of learning was buried in a deep trance. In the strong language of one of the earliest revivers of botanical science: 'Those writers who did occupy themselves with the subject, especially Matthæus Sylvaticus, and Simon Jauensis, deserve the execration of all posterity, for their worthless compilations and treacherous translations of the ancients.'

48. The second period presents us with more promising views. All science began to revive, and monasteries were no longer the exclusive seat of human knowledge. Brunfelsius, Gesner, Fuchsius, Dodonaus, the ever memorable Clusius, and the great Bauhin, opened the path to the present state of botanical science.

49. Otto Brunfelsius, son of a cooper, was born at Maynz, at the end of the fifteenth century. He was first a Carthusian friar, and became, soon after, cantor (precentor) in Strasburg. In his work he has given the first figures of plants, and he was also the first botanist in Germany. The drawings are not very good, and do not in the least correspond with his own descriptions.

50. Hieronymus Bock, was born at Heidesbach, in Deux Ponts, 1498. He died in the fifty-sixth year of his age, the 21st of June, 1554. He changed his name, according to the fashion of his age, to the Greek name Tragus. In three books of his work he treated pretty accurately of those plants which grow in Germany, and represented the described plants in 567 figures, which are not bad. It is an objection made to him, that he neglected the virtues of the plants, though he knew them perfectly well, and that he used the writings of the ancients too little. He wrote a history of plants, of which many

editions have appeared in German, French, and Latin. He likewise wrote notes to Dioscorides, Galen, and Hippocrates, on which account he entered into a long dispute with the famous physician and philologist, John Heynbut or Hagenbut, who likewise called himself Cornarus. Cornarus published a treatise against him, entitled *Vulpecula Excoriata*. The botanist, Fuchsius, answered in another, with the title, *Cornarus Furiens*; after which Cornarus finished the dispute with the publication of a work, which he termed *Mitra*, *S. Brabylla pro Vulpecula Excoriata Asservanda*.

51. Peter Andreas Matthiolus, a physician at Sienna, was born in the year 1500, and died at Trent, in 1577, of the plague. He had carefully studied the works of the ancients, especially of Dioscorides. His *Krauterbuch* (work on plants) was written originally in Italian, but we have French and German translations of it.

52. Matthias de Lobel, physician to king James I. of Great Britain, was born at Brussels, in Flanders, in 1538, and died in London, 1616. Together with Peter Pona, a physician in Provence, he wrote the *Adversaria*, part of his greater work. He says that this physician sent him many rare plants. Some assure us that he has in his works given many ideal figures of plants; and he has described several as growing wild in Britain, which after him nobody could ever find.

53. Charles Clusius, or Charles de l'Ecluse, was born at Arras, in the Netherlands, 1526. His parents wished him to become a lawyer, and he went with this design to Louvain. But he presently changed his mind, and, from his great love of botany, soon undertook the most tedious and troublesome journeys through Spain, Portugal, France, Great Britain, the Netherlands, Germany, and Hungary. In his twenty-fourth year he became dropsical, of which, however, he was cured by the use of succory, recommended to him by the famous physician, Rondeletius. In his thirty-ninth year, in Spain, he fractured his right arm close above the elbow, falling with his horse, and soon after he broke his right thigh. In his fifty-fifth year, at Vienna, he sprained his left foot, and eight years afterwards dislocated his hip. This last dislocation was neglected by his physician, and he had the misfortune to walk for the remainder of his life on crutches. The great pain and difficulty he had thus to suffer when walking, prevented him from taking the necessary exercise, in consequence of which he was affected with hernia, obstructions in his abdomen, and calculous complaints. Thus miserable and unhealthy, tired of the court of the emperor, where he had resided for fourteen years, and finding, besides, the superintendence over the gardens there too great a burden, he accepted, in the year 1593, an invitation as professor at Leyden, where he died, April 6th 1609. Clusius was the greatest genius of his age, and prosecuted the study of botany with an enthusiastic zeal, and a perseverance which was not equalled by any preceding philosophers, or by that of any of his followers. His works exhibit a great botanist, and they will always remain valuable and indispensably necessary. The figures annexed to

them are neat, the drawings correct, and his descriptions masterly. It was a pity that a man of such great merit should have suffered so much, and even become the first martyr to botany.

54. Andreas Cæsalpinus came from Arezzo, in Tuscany. He was called to Rome, as physician to Clement VIII., where he died, the 25th of June, 1602. Before him plants had been described without the least order, and nobody thought, by attending to the similarity of different parts, to render the study of botany more easy. His system will render him ever memorable. The writings of this botanist are so rare, that scarcely more than their titles are now known; but they are among the most valuable in the world.

55. Jacob Dalechamp, born at Caen, in Normandy, in the year 1513, spent most part of his life at Lyons, and died there in 1588, or according to some, 1597. He was the first who intended to write a general history of all known plants; but, by other occupations, he was prevented from continuing it. An accomplished physician at Lyons, of the name of John Molinaeus, completed it, at the desire of the bookseller Rovilli.

56. Joachim Camerarius (son of the celebrated commentator), was born at Nuremberg, the sixth of November, 1534, and died October 11th 1598. He lived with Melancthon, at Wittemberg, when a boy, and afterwards studied medicine at Leipzig. Camerarius wrote several treatises on economical botany, and on the plants of the ancients. His principal work contains forty-seven figures, from Gesner's collection. For he purchased Gesner's whole collection of cuts, which amounted to about 2500. He made great use of them in his edition of Matthioli, and in another work, still of great value.

57. Jacob Theod. Tabernæmontanus, a pupil of Tragus, took his name from his native place, Bergzabern, a small village in Deux Ponts. He was first an apothecary at Kronweissenburg, he went afterwards to France, returned as doctor of medicine, and at last died as physician to the elector palatine, at Heidelberg, 1590. He was generally esteemed for his great skill. His work was not finished by himself. The second and third volumes were written by another, and are inferior to the first.

58. Leonard Rauwolf, a German, undertook a troublesome journey throughout the Levant. He travelled in the years 1573—1575 through Syria, Arabia, Mesopotamia, Babylon, Assyria, and Armenia. After his return he settled as physician at Augsburg. On account of his religious profession he was obliged to leave his native place, and died, 1596, as physician to the emperor's army. He has published a very complete account of his journey.

59. Prosper Alpinus, from Marostica near Venice, went, on account of his love for botany, to Egypt. After his return, he practised as physician in Venice, and then in Genoa; he went at last as professor to Padua, where he died, in 1617. He was universally regarded as a very able man. Botany is indebted to him for a few curious little works.

60. John Bauhin, was born at Lyons, in 1541. He was a pupil of Fuchs: and left his native

country, and remained for some time in Yverdon, a town in the canton of Bern. He then went to Muempelgard, where he died, as physician to the duke of Wirtemberg, in 1613. He travelled through the greatest part of Switzerland and Italy. When a youth he commenced his great work, which he only finished fifty-two years after. In this extraordinary performance, a history, extremely well arranged for the time, and admirably compiled, was given of all the plants which had up to that time been published. It was illustrated by a vast multitude of wood blocks, and is the first work of the nature of what are now called *Species plantarum*. The works of Bauhin will always stand as landmarks in science for the benefit of all succeeding ages. His younger brother, Gaspard Bauhin, who died at Basle, in 1624, trod closely in his footsteps, and deservedly ranks high among the botanists of that age.

61. From this memorable period of improvement, in which the Herculean labors of John Bauhin and his brother, as well as the arrangement of Cæsalpinus, had not only advanced the study of vegetables to an unprecedented height, but seemed also to have ensured its continued and unremitted progress; botany, as represented by botanical historians, appears notwithstanding to have languished for a period of nearly half a century; which might perhaps have been owing to the impossibility of outdoing the Bauhins in their own line of investigation, and upon their own principles. But if the progress of the study of vegetables was thus suspended, inasmuch as relates to the collecting, describing, and figuring of plants, there is at least one view of the subject in which it was most essentially advanced; and that is in the revival, if one may not absolutely say original introduction, of phytological investigation, which had been attempted by Theophrastus, and consigned to the most culpable neglect by succeeding botanists, for a period of nearly 2000 years.

62. The revival of this study was probably owing to the new impulse and new direction communicated to the spirit of philosophical enquiry by that great and illustrious luminary of science, Francis Bacon, Lord Verulam, who, having explored and developed the true foundations of human knowledge with a sagacity and penetration unparalleled in the history of mankind, and having dared to disengage himself from the fetters of academical authority, denounced as vain and idle the visionary speculations of the schools, and boldly pointed out the necessity of a complete and thorough revolution in all pre-established methods of study; recommending the more tedious, but yet more successful, method of analytical and inductive investigation, and proclaiming truth to be but the image of nature. But to whatever cause it may be attributed, the fact is, that two different sets of phytological experiments modelled upon the principles and methods pointed out by Bacon, and with a view to elucidate the phenomena of vegetation, were instituted about nearly the same time, by two celebrated anatomists, and accurate observers of nature, residing in different countries, and having no communication with one another. These

naturalists were Grew and Malpighi; the latter an Italian, the former an English physician. For as Gesner and Cæsalpinus had been led, as it were, instinctively to the study of methodical arrangement without any mutual intercourse, so were Grew and Malpighi to the pursuit of phyto-logical enquiry; a circumstance likely to happen, at a time when the spirit of true philosophy had begun to diffuse itself among men of speculative habits, of whom many, no doubt, would be led to view the same subject in the same light.

63. The result of the investigation of these illustrious phytologists was first communicated to the public towards the end of the seventeenth century; and it must be confessed that the success of their labors made amends, in a great measure, for the long neglect of preceding naturalists; for though they had no track to direct them in this obscure and intricate investigation, yet by joining patience to penetration, and experience to philosophy, and by adopting the only sure means of detecting the secrets of nature, the experimental mode of enquiry; exploring most scrupulously the internal and recondite structure of plants, and watching with unwearied application the functions of the different organs, they succeeded in removing much of that veil which had enveloped the phenomena of vegetation; and in opening up to the observation of man a new view of the works of God.

64. But the principles of the philosophy of Bacon, which were thus so successfully applied to phytology, were extended also to botany; particularly on the subject of arrangement, and ground of generic distinction—the necessity of which was now more than ever indispensable, for the purpose of reducing to order the immense mass of particular specimens, collected and described by the increasing multitude of adventurers in the field of botanical discovery. Accordingly, in pursuit of this important object, the talents and industry of the learned were now also more than ever exerted, and a variety of systems introduced, adopted, and abandoned, in their turns.

65. Of these the principal were the methods of Morison, Ray, Tournefort, Rivinus, Boerhaave, Herman, and Magnol, which appeared about the end of the seventeenth or the beginning of the eighteenth century; and which, whatever might have been their defects, had at least the merit of exhibiting botany under a new and systematic form. But the most celebrated as well as the most beautiful of them all was that of Tournefort, which was adopted in France with a kind of epidemic enthusiasm characteristic of the nation, and which has been admired by botanists of all countries. It had, indeed, much merit, at least as exhibiting the first model of generic discrimination, founded on principles truly philosophical. But it had also its defects; for, extremely beautiful in speculation, it was yet clogged with insurmountable difficulties in the practice.

66. No method of arrangement, therefore, had yet been discovered sufficiently suited to the exigency of the case; and a method founded on

principles more easily reduced to practice, was still the grand desideratum of botany.

67. In this peculiar crisis of botanical perplexity, when specimens were every day multiplying in the hands of collectors, when herbariums were devoid of arrangement, and the science was in danger of relapsing again into an absolute chaos; a great and elevated genius arose, destined to restore order, who surveying the immense mass of materials with a sagacity and penetration unparalleled in botanical research, and seizing, as if by intuition, the grand traits of character calculated to form the groundwork of a philosophical division, detected the clue by which he was to extricate himself from the intricacies of the labyrinth, and rear the superstructure of a legitimate method. This great and illustrious naturalist was the celebrated Linnæus, who deducing his rules of method from the most incontrovertible of all principles, and establishing the laws of generic and specific distinction, and even rules of legitimate definition, introduced into the study of botany a simplicity of system, a perspicuity of arrangement, and a precision of language, which have elevated it to the high rank it now holds in the scale of human knowledge, as well as allured to the study of the science men of the most distinguished abilities, and excited that ardor for botanical investigation which characterises the present age.

68. Now let us trace the progress by which this stock of knowledge was acquired. In the Holy Bible it has been ascertained, from the investigations of Sprengel, that there are seventy-one plants noticed by name; which, generally, are such only as were applicable to the purposes of man; and, viewed in this light, the number, as compared with those known to the early heathen writers, is far from inconsiderable. The Homeric Flora amounts to less than thirty species; that of Hippocrates, in the year of the world 3630, to 274 species; and of Theophrastus, who is supposed to have flourished about the same time, to something like 500 species. Dioscorides, who, it is most probable, lived in the time of Cleopatra, more than 300 years later than Theophrastus, notices 600 plants; and finally, Pliny, in the seventy-fourth year of the Christian era, compiled, from an examination of more than 2000 volumes of Greek and Roman writers, an account of nearly 1000 species, the result of the investigations of more than forty centuries. In the succeeding 1400 years, we have already seen that the progress of botany was so slow, that if an increase of 500 species is allowed to have taken place during that long period, it is as many as can possibly be made out to have been discovered. But the two next centuries, when the knowledge of plants was assuming a scientific form, produced, after making every allowance for repetitions and spurious species, upwards of 4500 new plants; a number more than three times greater than had been ascertained in all the ages of the world before.

69. But if we find the opinion expressed at the commencement of this chapter confirmed by the experience of the ages anterior to Tournefort, how much more strongly is it supported by

the evidence of modern times. In the first edition of the *Species Plantarum*, published fifty-three years later than the first edition of Tournefort's *Institutes*, the number of species amounts to 7300; but so extraordinary was the advance of botany under the auspices of philosophical classification and of Linnæus, that in a few years more it was found that 1500 plants could be added to the list. Pulteney, indeed, makes only 7800 in all; but in this he must be mistaken.

70. The number, however, of species described by Linnæus, even in his latest work, is by no means to be taken as the standard by which the actual state of knowledge at his time is to be measured. It is well known, that his notions respecting species were peculiar to himself, and it must also be supposed that the difficulty of adapting the half described species of his predecessors to his system, operated with him in some degree in inducing him to neglect their labors, in cases in which his own knowledge did not chance to be such as confirmed their opinions and descriptions. For this reason he often omitted the discoveries of Tournefort, whom he also viewed, and with justice, as his most powerful rival. But the most remarkable instance of his oversight is to be found in the lower orders of vegetables; an obvious example of which is afforded by fungi, of which he notices in the most perfect of his works only ninety-three species, at a time when Micheli had described nearly 800 species of *Agaricus*, or at least of pileate fungi, peculiar to Italy alone. Hence it follows, that a just criterion of the number of plants known in the days of Linnæus can by no means be formed from consulting that writer's works alone; if, on the contrary, we take into account his omissions, and deduct from the *Institutes* of Tournefort one third for garden varieties, which are improperly ranked as species in that work, we shall be justified in fixing the number of species actually described in works of botany at the time of Linnæus's death, in the year 1778, at the following numbers:

	Species.
Described in the second edition of the <i>Species Plantarum</i> , and the <i>Mantissas</i>	8800
Described in the <i>Institutes</i> of Tournefort (not noticed by Linnæus)	1000
Described in Micheli, and other authors upon cryptogamous plants (not noticed by Linnæus)	1000
Described in the works of Hernandez, Piso, Morison, Ray, Baubin, &c. being either not taken up, or confounded with others by Linnæus	300
making the whole number of plants of all kinds, actually described at that time, amount to 11,600, or, in round numbers, to 12,000 species.	

71. Notwithstanding the undoubted excellence of the principles and system of Linnæus, it is not to be denied that, had he lived at a less corrupt period, or had he not possessed the singular power of precise language, at a time when he was surrounded by confusion and vague descriptions, his botanical system would have been as unsuccessful as those of his predecessors had been, in establishing itself in the good opinion

of the public. The errors of Linnæus have been so glozed over in this country, that it is quite necessary, in a work intended for public benefit, to open the eyes of the public to the nature of his faults, which may be considered under two heads; the errors of his principles and the faults of his system.

72. Nothing could be more improper and injudicious than the arbitrary manner in which he rejected or altered, when unnecessary, the names given by individuals who preceded him; a practice by which the difficulty of bearing in mind the identity of Linnæan plants with those of antecedent authors has been increased to a most inconvenient degree. He was also in the practice of applying the names used by classical writers to modern plants, without any consideration, and often to such as were wholly dissimilar from those of the classics. His rules of nomenclature, as promulgated by himself, however excellent they may be in some parts, are to the last degree gratuitous, and inconvenient in others. He likewise had the glaring fault of not attaching precise ideas to the names of the organs of plants, but under a single name confounded entirely dissimilar parts; as, for example, in the case of his nectarium, which means almost any and all parts of the flower; this circumstance is very remarkable in a man who certainly possessed a very logical mind. His definitions, usually not accompanied by descriptions, are so imperfect and vague, that it would have been impossible to have determined his plants without the aid of his herbarium; a fault which ought to be considered as most grave; and yet his admirers bepraise him for these very definitions. His patience in overcoming the difficulties of condensing the information of his predecessors, and the novel and elegant manner in which he effected this, are however so striking, that one might almost allow that he merited his high fame upon these grounds alone. Nor would it have been requisite to point out faults, such as have been here noticed, had not the indiscriminate admiration of his friends attempted to make it appear that this certainly great man was something superhuman in all his works, while they are as much open to criticism as those of other authors.

73. The famous system of arrangement which was founded by Linnæus, under the name of the sexual system, and which for more than half a century was exclusively employed by a large proportion of the most learned botanists, and which is even now made use of by some of the more venerable existing writers, may be said to have owed its celebrity more to its being the groundwork of the important labors of its inventor, than for any extraordinary inherent merits. A great recommendation with the world has also been its apparent facility and simplicity. The principles upon which this system was founded will be explained hereafter; its application and merits are all that demand attention in this place. As it is entirely and essentially artificial, it must be considered in that point of view only; for which reason all the inventions of modern botanists, which tend chiefly to render it less artificial, will be passed by, as well as be-

cause the innovations of his successors are not attributable to Linnæus.

74. It is obvious that the only merits which an artificial system of arrangement can possess, must be extreme facility and precision of application; and that it will be found defective in exactly the degree in which these qualities are absent. Now, notwithstanding the simplicity of the organs upon which the Linnæan arrangement depends, it is notorious, that it is continually necessary to leave them out of consideration in determining the locality of plants. The species, for example, of a genus vary or differ in the number of their stamens; that genus therefore ought to be found in as many different classes as there is variation or difference of this kind; the species differ or vary in the number of their styles; such a genus would be referrible to as many different orders as there are variations of that nature. These differences exist, not only among species of the same genus, but even in flowers of the same individual; whence cases might be found of particular plants, which belong at the same time to several classes and orders of the system. Can any thing be more objectionable to its use than this fact? and instances of such difficulties are neither few nor uncommon. Another objection to the sexual system is, that no information is gained by its use, and that after employing it for the whole of a life, not a single idea is acquired beyond the half dozen with which it was necessary to set out; the consequence of which has been a misconception of the nature and analogies of the organs of plants, and a general ignorance of the affinities by which individuals are related, a thorough knowledge of which is absolutely indispensable to any systematic writer. That this is the fact may be sufficiently shown, by an appeal to the writings of the very best of the exclusively Linnæan botanists. These points are abundantly sufficient to show the inferiority of Linnæus's celebrated system to the praises of his admirers, and to explain the cause of its almost universal disuse at the present day. As an artificial system, it is unquestionably inferior for ready use, and precision, to the artificial system of the French school. Any ingenious botanist, indeed, would contrive a better, if it were either necessary or useful.

75. The natural method, as it is called, has now, however, so entirely superseded the sexual system, and has become so much more facile than it formerly was, that the utility of any artificial system whatever may now be doubted. This celebrated system is generally said to have taken its rise in France, with Bernard de Jussieu, who in the year 1758 arranged the plants in the Royal Garden of Trianon upon a plan which may be considered the basis of the system in its present state. It is not here, however, an object to enter upon the history of the subject, nor to point out the improvements the method has successively received at the hands of Antoine Laurent de Jussieu, Ventenat, Brown, Mirbel, Richard, and De Candolle. It will be preferable to give a rapid glance at its actual state, principles, and objects.

76. The great principles upon which the na-

tural system depends, are, that plants ought to be considered with reference to all their organs, forms, and peculiarities, and not with reference to an arbitrary selection of any one of these; that a bond of union exists in all nature, by which individuals approximate to individuals by insensible gradations; and that the true mode of arriving at a knowledge of the real nature and station of a given object is, by considering it with reference to the points in which it most nearly resembles other objects, which points are called affinities. By this mode of looking at the science, while it becomes necessary to acquire a knowledge of a considerable number of individuals, in order to understand the nature of any single individual, it also follows that the acquisition of this knowledge facilitates in an obvious manner the subsequent investigation of any new subject. For example, a student who is entirely unacquainted with the science, takes up, for the first time in his life, a grass; he examines it, and discovers that it possesses the characters of the extensive natural assemblage called gramineæ, or grasses, and that it belongs to the section of that assemblage called the genus *poa*. From that time forward he will, from the investigation he must of necessity have instituted, possess an accurate notion of the properties and peculiarities of graminææ, and, whenever he again meets with a grass, he will know that it is one, and where in the system at once to refer for information respecting it. The same is consequent upon his studies to the end of his career; each new discovery necessarily increasing his knowledge in various directions, and facilitating the making of discoveries to come.

77. The modes of arrangement, and of analysis, of the natural method are these.

78. The vegetable kingdom is first divided into three portions, according to the structure of the embryo, and of vegetation, viz. 1. *Acotyledones*, which have no cotyledons, as other plants, but whose seeds or spores germinate from any indifferent point of their surface, and whose vegetation is constructed entirely of cellular tissue, without the intermixture of tubular or spiral vessels. 2. *Monocotyledones*, whose embryo has one cotyledon, rarely none, and which in that case germinates from a determinate point, and whose vegetation is formed by increase taking place at their centre, not at their circumference. 3. *Dicotyledones*, which are formed with two cotyledons, and whose vegetation is produced by the gradual superposition of internal layers beneath the bark. This order of arrangement of the three primary groups was used by Jussieu; it is now more frequently inverted, the *Acotyledones* terminating instead of beginning the series.

79. *Dicotyledones* constitute the most extensive part of the vegetable kingdom, and are considered to be in a more perfect state of development than the two others. They are subdivided, 1. According to the number or absence of their petals, into *polypetalous*, *monopetalous*, and *apetalous*. 2. According to the insertion of their stamens, which is *hypogynous* or *perigynous*. 3. According to the adhesion or non-adhesion of their calyx with the ovary, which

is either superior or inferior. 4. According to the position of the stamens with respect to the petals. 5. According to the structure of the fruit. 6. According to the structure of the seed. And 7. According to the modifications of their vegetation, as far as they indicate a corresponding peculiarity in the parts of fructification, which is often the case, and which wonderfully facilitates the acquisition of a knowledge of the natural orders of plants. Thus all Rubiaceæ have opposite entire leaves with intervening stipulæ; all Labiata have opposite resinous leaves, without stipulæ; all Leguminosæ have alternate leaves, with stipulæ, and leaflets always jointed with the petiole, and, when compound, furnished with stipulæ at the base of each pair of leaflets.

80. Monocotyledones are also subdivided according to the above principles, as far as they are applicable to them, but as this group is much more simple in its structure, and less extensive than dicotyledones, the mode of its division is necessarily different. Its principal section is that of cryptogamiæ, which is characterised by the absence of apparent flowers.

81. Acotyledones, which contain the plants of the simplest structure, have no sexes, but reproduce themselves by what are called sporules, that is to say seedlike bodies, which differ from seeds in germinating indifferently from any point of their surface, and in not being the result of sexual contact. This group answers to the Linnæan cryptogamia, excluding filices.

82. From this statement of the principles upon which the natural system of plants has been contrived, it must be obvious that the difficulties which the advocates of the Linnæan method pretend that it offers to the student do not exist, and that, in fact, the difficulties in the application of the Linnæan method are much greater, as far as the mere student is concerned. In the Linnæan system nothing is learned in the investigation of the name of a plant, except the simple and often very unimportant fact, that its stamens or styles exist in a certain quantity or position; in the natural method, on the contrary, the same process brings the student acquainted, not only with all the characters of that plant which is under his consideration, but also with a comparative knowledge of those plants to which it is allied by nature. In the Linnæan system no step can be advanced till the flower is examined; in the natural method almost any other part of the fructification, and often the foliage or habit of the plant only, will suffice. The Linnæan system produces empirical botany, the natural method scientific botany.

83. It will be seen that, except with reference to the two modern systems of botany, the history of the science, since the time of Linnaeus, is here scarcely noticed. The facts and actors since that period are too recent to require explanation, and too much connected with living writers to make a task requisite which would necessarily be ungrateful. After the decease of that great man, a long interval elapsed, which has reached even to our own times, during which but little improvement in the science took place among his followers. They have added, indeed, to the number of recorded plants, by describing and

defining according to the principles of their master; but it is to France, and to the disciples of the French school elsewhere, that we must look for the progress of scientific botany.

84. By the united endeavours of the followers of the two systems, the advance of botany, since the days of Linnaeus, has been most extraordinary. The number of plants of all denominations now recorded, cannot fall short of 100,000. The elegance and the classical form bestowed upon the science by the labors of the learned Swede, and the attractions offered by the more philosophical principles of Jussieu, and of the French school of botany, have given to the study of the vegetable world that rank among the sciences which its actual importance demands. Princes and potentates have become its patrons, and nobles its professors; vast sums have been expended in its support by the governments of Spain, of France, of the various German states, of Denmark, and of Russia; and in Great Britain the private munificence of individuals has amply compensated for the indifference of the government. The advantages arising from such powerful aid have not disappointed the expectations entertained from them; and the rapid progress of the science towards perfection has almost justified the patronage it has received.

85. But great as the progress of modern systematic botany has undoubtedly been, the progress of modern physiological botany is perhaps still greater. For to give an idea of the mass of talent that has been directed to the elucidation of this difficult department of the study of vegetables, since the period of the investigations of Grew and Malpighi, it will be sufficient to mention, in addition to the name of Linnaeus, that of Hales, Bonnet, Du Hamel, Hedwig, Spallanzani, each of whom has peculiarly distinguished himself in the field of phytological investigation, and eminently contributed to the advancement of the science. But Dr. Priestley deserves to be particularised, as being the first who introduced into the study of phytology the aid of pneumatic chemistry, which, under the happy auspices of Ingenhousz, Sennebec, Sausure, and others, has done more to elucidate the phenomena of vegetation, than all other means of investigation put together; so that our knowledge of the physiology of vegetables may now be regarded as resting upon the foundation of a body of the most incontrovertible facts, and assuming a degree of importance inferior only to that of the physiology of animals.

86. But although the labors of phytologists have been directed with success to the explication of a variety of the most important phenomena of vegetation, and although we have been already favored with a condensed and systematic view of the result of their investigations by writers of the highest celebrity, yet there seems to be still wanting some work that shall exhibit them more in detail, and serve the purpose not merely of a brief and rapid sketch, to assist the recollection of the adept, but of a clear and copious introduction, to facilitate the studies of the novice, by presenting to him: first, such an elementary view of the vegetable kingdom, in general, as shall be directly preparatory to phy-

siological research; and secondly, such a view of the process of vegetation as shall render the rationale of the preceding phenomena preparatory to that of the following, and shall not necessarily suppose any previous knowledge of the subject.

III. THE ANATOMY AND PHYSIOLOGY OF PLANTS.

87. Without entering, in this division of the subject, into all the differences of opinion with which botanists have occupied the world during the slow journey by which we have arrived at the present state of our knowledge, it will be enough to explain, in a clear and sufficient manner, those principles of vegetation, and laws of vegetable increase, which are now believed to be correctly ascertained. In this department, the writings of Aubert du Petit Thouars, a distinguished French philosopher, are considered as those which contain the most correct views of the progress of nature.

88. Not to occupy ourselves with the immense variety of forms which cover the whole face of the globe, it will be more convenient, and equally useful, to confine our attention to a single species. For this the commonest weed will answer the same purpose as the stateliest tree of the tropics.

89. After considering its external organs, let us examine its interior, and seek to discover the manner in which they contribute to its existence. By comparing it with other plants, we shall be enabled to determine what it has in common with them, and what are its peculiarities; thus we shall at once acquire an idea of its essential characteristics, and of its differences. By enlarging a little upon the functions of all the organs of a plant, under this part of our article, it will be only necessary under the head of Pure Botany to enter into the modifications of organs, without further reference to their nature and purposes.

90. Take a plant at hazard, the first you meet with by the path; it will be found to possess a root, which fixes it to the ground, and which buries itself in the earth; and a trunk, or stem, which elevates itself in the air. The latter is furnished, at intervals, with leaves which are remarkable for their thinness, and their green color. Near the point where they leave the trunk, is placed a body which is protruded from it also. Without any determinate figure at first, it gradually develops, and produces new leaves similar to those from which it proceeded; and, gradually separating the leaves from each other, it stops by forming a second stem. This stem is a branch. Each new leaf being supplied with a similar body, or bud, is capable of producing a new branch, unless prevented by injury or accident. This, therefore, is the plan upon which the plant we are examining increases in size; but the changes of this nature which it undergoes have little effect upon its peculiar characteristics, they only render it of greater or smaller size. But a more remarkable epocha presently arrives. Buds make their appearance of a very different nature from those which formerly produced branches; they insensibly in-

crease in size, and at a fitting hour, when they have arrived at their greatest growth, the delicate parts which they contain, burst through the scales which envelope them, and expand themselves; these are the flowers. They are no longer of a monotonous uniform green color, but they assume the most lively hues, they exhale the most delicious fragrance, and they surprise us by the complex mechanism which they contain. But their duration is brief. Of all the parts of which they were composed, one only remains, which is the pistillum and which fills the centre. When all the rest are withered, this alone assumes a new life, and, after a gradual increase in size arrives at maturity, and becomes the fruit. The latter encloses bodies which separate from it at the period of maturity, and which are the seeds.

91. Each of these seeds placed in the earth, and submitted to the effects of time and circumstances, undergoes the process of germination; that is to say, absorbing, or, as some have it, pumping up humidity, through canals which are invisible to our senses, it swells until it bursts through the coverings in which it is encased. Then a new body makes its appearance. This is the embryo or rudiment of a new plant; it is formed of two portions; the one a cylindrical or conical oblong body, and the other two leaf-like processes applied closely upon each other. The cylindrical body lengthens, and endeavours to bury itself in the earth; whatever may be the position in which the seed is placed, it finally attains this purpose, and, penetrating the soil, becomes a real root; whence the name of radicle, which is applied to this organ when in a state of rest. The two leaf-like processes separate, and assume a horizontal direction; they are the cotyledons. In their centre is to be seen a sort of little bud, which is called the plumule, and which is the parent of subsequent leaves; those which it first develops are rather different from those of the plant which produced itself; but in the end they become identical, and a new plant is produced, in all respects the same as that by which the seed was originally borne.

92. Having now examined the exterior of a plant, it is time to consider its internal structure. For this purpose it is as well to continue our observations on the little plant which has just emerged from the seed. In its state of infancy and seclusion, the radicle, when cut across, offers nothing more than a succulent homogeneous substance. As soon as it has advanced, and touched the earth, and pushed forth some young roots, if it is broken across it will be seen that it is then divided into two distinct parts; namely, a cylinder covered over with a sheath, which appears capable of being separated from it in all points. If the plant has also produced young branches, they too, when cut across, exhibit a similar appearance; that is to say, upon their first coming forth they will be found solid and homogeneous, and presently afterwards they will be seen to consist of a solid cylinder, and of an external case. After all these parts have arrived at a further period of their growth, another difference will be observable. A transverse section then exhibits two concentric circles; the

inner enclosing a spongy and rather dry cylinder, the exterior a sheath, which is firmer and of a whitish color; besides which will be seen the separate case which was distinguishable from the earliest development of the plant, and which has now become whitish in the inside, but which retains externally its succulent texture and green color. The rest, however, continues to manifest its two original divisions only, which are always white or some other color, but never green.

93. Here then we have three distinct parts, that in the centre is the pith, the case which surrounds it is the ligneous substance, or the wood; and the external covering is the bark. In the root the pith is absent. But are these parts actually as distinct as they appear to be to the naked eye? In the infancy of the plant we have seen that they were not separate. By what means then have they become so?

94. At the period when they appear most distinct let us examine the pith with a pocket lens. We shall perceive that it consists of a mass of little bladders, or cells, the section of which exhibits a figure more or less hexagonal, and which constitute polyhedral figures, the sides of each of which appear to be common to two cells. They are not so, however, in fact; each polyhedral cell being, as is now known, distinct and separable from those next it, with which it is only in a state of cohesion. Following the direction of these cells with care, it will be seen, that some of them pass horizontally through the ligneous substance, and lose themselves in the bark; if no trace of these appears on the surface of the wood when the bark is stripped off, that will be attributable only to the extreme tenuity of the traversing cells, which snapping asunder upon the slightest violence, leave no perceptible vestige, and offer no sensible resistance. If they are traced in the bark itself, it will be found that they maintain a connexion with the external part of it, where they form a continuous layer, which is what preserves that green color which is always obvious on the outside.

95. The only difference which exists between these parts is, that the centre has expended all its juices, and that the outside of the bark preserves them. In this state the latter receives the name of parenchyma. But with the feeble nature, and slight texture which it possesses, in what manner can it be conceived that the pith penetrates the woody substance which seems to be so solid? The first glance is sufficient to explain this phenomenon. There is no sort of difficulty in seeing that the wood is composed of parallel fibres, which interlace each other, and form a kind of net-work, through the meshes of which the parenchyma, or the medullary elongation, finds its way to the bark. There it meets with a net-work of matter far more flexible than that nearest the pith, and composing all the interior of the bark; this latter is named the liber.

96. There is still an essential part of the bark to notice, which is the epidermis. This is easily discovered. All the interior parts of a plant seem both to the eye and the touch saturated with glutinous juices, while the external part is wholly dry. This state of dryness arises with the epi-

dermis, which consists of an exterior membrane, enclosing and holding together all the solid and fluid parts. It originally existed in the embryo, and it continues to cover, without interruption, all the parts subsequently developed. Even the leaves themselves, so delicate and attenuated, are covered over both surfaces with two united skins of this epidermis. The expansion or dilatation to which they are subject proves this fact, and makes them excellent evidences of it.

97. The part by which the leaf is attached to the stem, and which is named the petiole, appears to be composed of a bundle of fibres. The petiole extends from one end to the other of the leaf, and separates it into two nearly equal parts. It diminishes in diameter as it approaches the end of the leaf, because it from time to time sends off young branches from each side, which themselves become subdivided, and, by crossing each other in various directions, form a kind of continuous net-work.

98. Accident, insects, or a very sharp instrument, will separate the epidermis. It then appears in the form of an extremely thin and perfectly transparent membrane. The green color which it exhibits in its natural state, is not proper to itself, but is caused by the succulent substance which is interposed between the meshes of net-work. In the latter there is no difficulty in recognising the parenchyma in a state of vegetation; for it is certain that the green color is the constant attendant of that state, and that by its means the parenchyma may be discovered wherever it exists.

99. The fibres which form this net-work proceed from the petiole; but whence does the petiole itself derive its origin? It appears to spring from the bark; in that case would it be any thing more than the meshwork of the liber in a state of development? Such has been the opinion of some writers; but, if its origin be carefully traced, it will be found to arise within the woody substance itself; and to be in fact a detached portion of the wood.

100. The phenomena which took place at the period of germination are renewed by every leaf which successively unfolds itself. The cotyledons were the source of the fibres which were sent down into the earth through the root; in like manner every leaf is enabled to maintain a communication between itself and the soil by the means of fibres. Hence arises another kind of increase, of which no notice has yet been taken; the increase in thickness. A stem which at the hour of its birth was no thicker than a pin, in a few months acquires the diameter of an inch or more. This arises from the successive superposition of the bundles of fibres, which are created upon the development of each leaf, and of every leaf-bud. The latter makes its first appearance under the form of a green point, which originates from the inner layers of the ligneous body, which it traverses, and penetrates into the bark. A short time after its first appearance, it may be perceived that the bud is surrounded by a portion of woody fibre, which passes downwards, covers over the wood previously formed, and thus forms a new layer. The existence of

this is easy to demonstrate ; for the fibres of the leaves separate easily from the wood, but the leaf-buds when broken off evidently arise from the interior of the wood. All the new parts formed by the leaf-bud soon become so completely identified with the old wood, that, after a short period, no marks of separation remain.

101. We have now followed the plant through all its stages of increase. We have next to consider what the source is from which it has obtained the substances it has assimilated. There can be no doubt that the roots, which penetrate into the earth, contribute much to this purpose ; for a long time, indeed, it was believed that plants were capable of absorbing even earth itself. But more accurate observation has shown that nothing but humidity can be carried up into the plant through its roots. Mere humidity, however, is insufficient to maintain life and health in a plant. Experiments have been tried to induce plants to exist with their roots plunged into water only : they all proved abortive, although in some cases life was maintained in the subjects of the experiments for several years. Various substances or agents, in combination with humidity, doubtless afford the nutriment upon which vegetables live. But by what curious mechanism is the requisite humidity conveyed to the parts which require it ?

102. In the rapid coup d'œil which has been cast upon the internal structure of plants, we have perceived nothing more in the ligneous body and the liber of the bark, than elongated fibres, which cross each other and form a net-work. Of this we may be convinced with little trouble, by examining against the light, with a pocket lens, a very thin transverse section of a branch. It will be seen to be pierced full of holes, of different forms and sizes ; these are the extremities of as many continuous tubes. The true structure of these tubes is much a matter of conjecture and dispute ; some observers discover an infinite variation of figure and organisation ; others reduce them all to the woody fibre and the spiral vessels or tracheæ. While one microscopic botanist sees pores and holes in the sides of these tubes, simple tubes, mixed tubes, and many more ; others declare that the pores are imaginary, the difference nonexistent, and that all the tubes are essentially the same. In this war of observation, which, however curious as a matter of speculation, bears very little upon the most important part of vegetable physiology, or upon the functions of parts, we shall at present content ourselves with one kind only, which is easy to observe. Twist a young shoot so as to break it with as little violence as possible, and the two separated parts will be found to be held together by extremely delicate threads. If you consider them with care you will find that they are each one a simple thread, rolled up in an admirable manner in the way of a corkscrew. The spires of this screw being closely applied to each other, it forms a continuous tube ; vessels of this kind are called spiral vessels and are found in the nerves of the leaves, or in the bundles of vessels in communication with the leaves. It was long thought that in these parts a striking analogy was perceptible between animals and plants ; and

a comparison was drawn, apparently with reason, between the spiral vessels of plants, and the tracheæ of animals, especially of insects which are constructed in a very similar manner. It was, therefore, inferred, that these were the respiratory passages of plants, but experience has not confirmed this notion. Nevertheless, it is certain, that air acts a great part in the economy of vegetation, and that it is by the leaves that its influence is manifested. They have a direct communication with the roots, whither all their intermediate tubes extend ; and the pores which terminate them may be seen with different degrees of facility according to circumstances. By their agency, the humidity which is sucked from the earth is raised and forms what is called sap, which deposits successively all that is necessary for the supply of the different parts through which it passes. Having arrived at the leaves, a portion escapes by perspiration, a portion is deposited, and the remainder descends, charged with new principles, which the leaves have absorbed from the surrounding atmosphere. The leaves therefore contribute to the increase of the plant. When this motion of the sap is once established it continues to increase ; and it is supposed that the superfluous power which it has acquired occasions the production of new branches, and of flowers.

103. But what is the cause of this motion ? The most obvious is heat, which, by dilating those upper points, which are most subject to its action, occasions a void in them ; the juices which are below them ascend to replace the void, and the continual recurrence of this operation occasions what we call the circulation or motion of the sap. This mechanical action will be a sufficient explanation for those who are contented with looking only at the surface of things ; but it will not explain all the difficulties connected with the motion of the sap ; and, especially will it not account for the first tendency of the radicle to the earth, on which tendency all subsequent phenomena necessarily depend ; of such a tendency, gravitation and a thousand other laws have been offered as an explanation, each being more unsatisfactory than the other. Surely it is wiser at once to admit that it depends upon that inherent principle of life which is peculiar to organic matter, which accompanies the vegetable through all stages of its existence ; and which is infused into those new individuals which the parent produces. It is a first impulse received in the beginning of its existence, which has extended into every part, and which finally passes into the seeds. It is that first creative impression to which it owes the faculty of assimilating the various molecuæ of matter, and of applying them ; by whose influence the roots are directed towards the side where the most fitting nourishment is to be found ; which compels the leaves to present their upper surface always to the light ; which induces many to assume that peculiar position during the night which has been compared to the sleep of animals ; and finally which gives rise to those various phenomena of vegetation which seem to distinguish plants from the general laws of physics.

104. This, perhaps, would be the proper place

to consider the relation which is borne by this vital principle of plants, to that life which we ourselves enjoy, and which we see descending in the scale of creation, growing weaker and weaker as it approaches the inferior animals, of which in general it appears to be the attribute. But, as we can be guided in this labyrinth by force of reasoning only, this question belongs less to the department of natural history than to that of metaphysics.

105. There are many other instructive ideas which may be obtained from the consideration of a single plant; but they perhaps, will be best understood by a comparison with other plants; and by ascertaining by that means, whether all are formed upon the same plan, composed of the same parts, and subject to the same changes.

106. One of the most obvious contrasts presented by the vegetable kingdom, is between the tribes which rapidly expand their foliage, and push up their flower-bearing stems, and by bringing their fruit to perfection fulfil the purpose of their creation in the space of a few months, or even weeks, and those monarchs of the forest which bear aloft their majestic branches in the air, and see centuries passing by them, while generation after generation of herbs, and even men, are perishing at their feet. One would think that if anything could indicate a difference of organisation it would be peculiarities like these. In fact, if we examine one of these vegetable colossi, which storms or other accidents have levelled with the earth that was so long overshadowed by its branches, we perceive that its interior consists of a solid, compact, homogeneous substance, which seems to be analogous to nothing in the annual plant; we also see, however, that a section of this substance is marked by concentric circles. In order to ascertain the origin of these circles, it is necessary to revert to the seeds, which such a tree produces in vast abundance. There we discover the same parts as in the annual plant; two cotyledones; a cylinder, which attempts to fix itself in the earth by the production of roots; and an intermediate bud. The impulse once given to its developement, this seed, with its apparently feeble resources, will become in the lapse of years and ages similar to that giant which produced it. In the leaves and buds consist the sources of its magnitude. The former being under the necessity, on the one hand of coming into contact with air, and on the other of establishing a communication with the soil, establish the action of vegetation. The first year passes on as in the annual plant, except that the parts of the tree are unfolded with less rapidity and that the buds present neither flowers nor fruit, but a tree covered with scales. Upon the arrival of winter, the annual perishes, the tree loses only its leaves. As soon as the season again becomes milder, vegetation, which had been suspended, is renewed; the buds insensibly expand, and the unfolding of new leaves gives a new life to the plant; each of these leaves is accompanied by its bud. Thus each successive season, producing a mass of foliage, which increases by a rapid geometrical progression, and an equal number of new buds, occasions the formation of a new body of ligneous substance, which

overlays the old body, and thus forms the whole tree into a kind of cone.

107. The whole mass of the wood is thus composed of thin successive cones. They are easily perceived in many trees, and it is they which form those concentric circles observable in a trunk cut across. Each circle, depending wholly upon the increase caused by the return of successive seasons, becomes a sure testimony of the age of the tree.

108. The principal part of our trees exhibits these laws of development. The buds may be more or less apparent; and the scales which enclose them may be more or less numerous, being increased in number in proportion to the greater sensibility of the organs they enclose. For a more sure protection, the scales are often covered with glutinous or resinous exudations. But even with this safeguard, the fostering hand of nature does not rest. Thick furs are frequently interposed during the winter among the buds, and are thrown over the tender shoots.

109. By this means the buds remain safely upon the tree. We generally remark one which is a termination of the branch, and which will the following year prolong the branch in its original direction; all the others are seated at the axillæ of the leaves.

110. Trees present many peculiarities, which depend upon their woody state. The pith, which occupies the centre of young plants, disappears in trees. It is probable that, besides the increase in diameter which takes place externally, some peculiar operation goes forward in the inside, and that the solid layers of wood compress the pith in such a way as to leave scarcely any traces behind. Around it vegetation is evidently maintained for a long time, as is shown by the green tinge which surrounds it. Larger and more obvious vessels are placed about it than elsewhere, and constitute what is called the *étui médullaire* by the French, which there is reason to think is one of the most important accessories of vegetation.

111. The wood does not at once arrive at that solidity which it subsequently possesses, but acquires it by slow degrees, from the centre to the circumference. For this reason the external layers are much less compact, and paler than the internal; they are called the *albumen*. Dutrochet accounts for this difference in the old and new layers of wood with his usual sagacity. He is of opinion that a portion of the sap, elaborated and sent downwards by the leaves under the state of proper juice, is absorbed laterally by means of the radiating vessels, or silver grain, and is gradually deposited in the originally empty vessels of the wood; that the compactness and weight of wood depends upon these juices so deposited, and not upon any constitutional difference in the wood itself, and that in certain trees, which are remarkably light, as the poplar, no deposit, or scarcely any, takes place.

112. The bark also undergoes material changes in the course of time. The first branches which are produced are green, like the leaves; their color being occasioned by the transparency of the epidermis, which allows the cellular tissue, or the parenchyma, to show through. By slow de-

grees the epidermis thickens, and assumes a deeper color, under which appearance it is seen in the winter season. If it is raised up, the green color of the parenchyma is still manifest enough beneath it. The epidermis necessarily gives way gradually to the growth of the tree, and splitting in various directions is replaced by another; and by slow degrees new layers are formed, and burst in various directions. According to the nature of the plant the epidermis also takes a variety of forms, sometimes forming the misshapen knotty crust which is usually called bark, sometimes peeling off in thin layers, and occasionally falling from the parent tree in hard flakes.

113. It is probable that the bark performs the same functions as the leaves, in the early state of the buds, and occasionally in all states. Otherwise it would not be easy to account for the growth of cacti, euphorbias, some apocineous plants, &c. which are all destitute of leaves. In fine, the bark may be compared to a universal leaf, with one surface only.

114. We have seen what ingenious methods nature adopts to screen the buds from the rigor of winter; but in countries where there is no winter no defence is requisite. These protecting scales diminish therefore, by degrees, as we approach the equator. In the trees which cover countries in such a latitude, the buds break forth at once into leaves and branches, without regarding the order of seasons. By this circumstance the apparent difference between trees and herbs is removed.

115. In like manner, insensible gradations unite the herbs which creep or trail along the ground, and those which carry their heads aloft in the air: the perennial and the annual vegetable. Some exist for two years. The stems of others perish every year, but their roots survive. Some under shrubs scarcely elevate themselves from the soil, yet their slender stems are formed of a firm and woody substance. Next come the shrubs whose branched and entangled stems form bushes. Lastly are perfected the trees which from possessing a stem scarcely loftier than the stature of a man, finally dilate themselves till they become the giants of the forest.

116. We have assigned, as the cause of increase in the bulk of trees, the communication which is established in their system between the leaves and roots. The reciprocity of disposition of these two organs is so strong, that if a bit of a branch of any tree which is robust enough to bear the operation, be placed in the earth it immediately makes good the loss it has sustained by being dissevered. It presently produces fresh roots, and a new plant is formed. The advantage which is taken of this peculiarity of plants, to propagate them by cuttings or layers is well known. But this is not all; a bud separated from its parent, and inserted between the bark and the wood of another tree, soon establishes the requisite communication between itself and the earth, and renders the tree which bears it similar in nature to the kind artificially inserted. Hence the origin of budding and grafting in horticulture.

117. From these observations it has become evident, that the life of a plant is a succession

of several lives; and that the greater proportion of its parts consists of an intermediate system, which only serves to maintain a communication between the extreme points of the vegetable. If a tree is destroyed by the ravages of time, its death can be only occasioned by the destruction of the intermediate portions of its fabric, by which the channel of continuous communication is effectually interrupted. After such interruption has taken place, the still surviving portions of the tree are capable of furnishing layers or cuttings, which will renew the operation of vegetation with unabated vigor.

118. The resources of nature are far from being exhausted by these apparent buds; there exists throughout the vegetable system a creative and expansive power, which, according to circumstances, is able to operate in the development of new buds, where none had been visible before. In fact, there is always an abundance of rudimentary buds dispersed among the substance of a tree, which are only called into action when the ordinary resources of nature begin to fail. They are frequently excited very long after the period which had been originally assigned for their appearance; and even in places where no traces of them could have been expected to exist. Thus in all vegetables there appears to be as obvious a line of demarcation in the system, at that point which is called the collar, whence the first ascending fibres direct their course upwards, and the descending downwards. Buds are only produced by the former, and form no part of the economy of the latter. Yet it not unfrequently happens, that roots exposed in a proper degree to the influence of the air, will form buds, and throw up shoots, in the same way as the branches. Even the leaves have, in a few cases, a similar power of producing buds, and consequently young plants.

119. We have now seen that the growth of plants, and their increase in size, depends upon a peculiar internal movement, acting between the leaves and the roots. But in what way does it operate? This is a problem which has exercised the ingenuity of all students of vegetable physiology, who have contrived theories innumerable to explain the phenomenon, which is called the circulation of the sap.

120. The great and almost impenetrable obscurity in which this subject is unavoidably involved, has occasioned much diversity of opinion among phytologists. Grew states two hypotheses, which he seems to have entertained at different periods, though it is not quite certain to which of them he finally gave the preference. In one of them he attributes the ascent of the sap to its volatile and magnetic nature, aided by the agency of fermentation; but this hypothesis is by much too fanciful to bear the test of serious investigation. In the other he attributes the entrance and first stage of the sap's ascent to the agency of capillary attraction, and accounts for its progress as follows: the portion of the tube that is now swelled with sap, being surrounded with the vesiculæ of the parenchyma, swelled also with sap, which they have taken up by suction or filtration, is consequently so compressed, that the sap therein is forced upwards a second stage, and so on till it reaches the

summit of the plants. But, if the vesiculæ of the parenchyma receive their moisture only by suction or filtration, it is plain that there is a stage of ascent beyond which they cannot be thus moistened, and cannot, consequently, act any longer upon the longitudinal tubes. The supposed cause, therefore, is inadequate to the production of the effect.

121. Malpighi was of opinion that the sap ascends by means of the contraction and dilatation of the air contained in the air-vessels. This supposition is perhaps somewhat more plausible than either of Grew's; but, in order to render the cause efficient, it was necessary that the tubes should be furnished with valves, which were accordingly supposed; but of which the existence has been totally disproved by succeeding phytologists. If the stem or branch of a plant is cut transversely, in the bleeding season, it will bleed a little from above as well as from below: and if the stem of any species of spurge is cut in two, a milky juice will exude from both sections in almost any season of the year. Also if a plant is inverted, the stem will become a root, and the root a stem and branches, the sap ascending equally well in a contrary direction through the same vessels; as may readily be proved by planting a willow twig in an inverted position. But these facts are totally incompatible with the existence of valves; and the opinion of Malpighi is consequently proved to be groundless.

122. The next hypothesis is that of M. De la Hire, who seems to have attempted to account for the phenomenon by combining together the theories of Grew and Malpighi. Believing that the absorption of the sap was occasioned by the spongy parenchyma, which envelopes the longitudinal tubes, he tried to illustrate the subject by means of the experiment of making water to ascend in coarse paper, which it did readily to the height of six inches, and by particular management even to the height of eighteen inches. But, in order to complete the theory, valves were also found to be necessary, and were accordingly summoned to its aid. The sap which was thus absorbed by the root, was supposed to ascend through the woody fibre, by the force of suction, to a certain height; that is, till it got above the first set of valves, which prevented its return backwards; when it was again supposed to be attracted as before, till it got to the second set of valves, and so on till it got to the top of the plant.

123. This theory was afterwards adopted by Borelli, who endeavoured to render it more perfect, by bringing to its aid the influence of the condensation and rarefaction of the air and juices of the plant, as a cause of the sap's ascent. And on this principle he endeavoured also to account for the greater force of vegetation in the spring and autumn; because the changes of the atmosphere are then the most frequent under a moderate temperature; while in the summer and winter the changes of the atmosphere are but few, and the air and juices either too much rarefied, or too much condensed, so that the movement of the sap is thus at least prejudicially retarded, if not perhaps wholly sus-

pended. But as this theory, with all its additional modifications, is still but a combination of the theories of Grew and Malpighi, it cannot be regarded as affording a satisfactory solution of the phenomenon of the sap's ascent.

124. With this impression upon his mind, and with the best qualifications for the undertaking, Du Hamel directed his efforts to the solution of the difficulty, by endeavouring to account for the phenomenon from the agency of heat, and chiefly on the following grounds: because the sap begins to flow more copiously as the warmth of spring returns; because the sap is sometimes found to flow on the south side of a tree before it flows on the north side; that is, on the side exposed to the influence of the sun's heat sooner than on the side deprived of it; because plants may be made to vegetate even in winter, by means of forcing them in a hot-house; and because plants raised in a hot-house produce their fruit earlier than such as vegetate in the open air.

125. On this intricate but important subject, Linnaeus appears to have embraced the opinion of Du Hamel, or an opinion very nearly allied to it, but does not seem to have strengthened it by any new accession of argument, so that none of the hitherto alleged causes can be regarded as adequate to the production of the effect.

126. According to Saussure, the cause of the sap's ascent is to be found in a peculiar species of irritability, inherent in the sap vessels themselves, and dependent upon vegetable life; in consequence of which they are rendered capable of a certain degree of contraction, according as the internal surface is affected by the application of stimuli, as well as of subsequent dilatation, according as the action of the stimulus subsides: thus admitting and propelling the sap by alternate dilatation and contraction. In order to give elucidation to the subject, let the tube be supposed to consist of an indefinite number of hollow cylinders, united one to another, and let the sap be supposed to enter the first cylinder by suction, or by capillary attraction, or by any other adequate means; then the first cylinder, being excited by the stimulus of the sap, begins gradually to contract, and to propel the contained fluid into the cylinder immediately above it. But the cylinder immediately above it, when acted on in the same manner, is affected in the same manner; and thus the fluid is propelled from cylinder to cylinder, till it reaches the summit of the plant. So also, when the first cylinder has discharged its contents into the second, and is no longer acted upon by the stimulus of the sap, it begins again to be dilated to its original capacity, and prepared for the intro-susception of a new portion of fluid. Thus a supply is constantly kept up, and the sap continues to flow.

127. But Mr. Knight has presented us with another, which, whatever may be its real value, merits at least our particular notice, as coming from an author who stands deservedly high in the list of phytological writers. This theory rests upon the principle of the contraction and dilatation, not of the sap vessels themselves, as in the theory of Saussure, but of what Mr. Knight denominates the silver grain, assisted

perhaps by heat and humidity, expanding or condensing the fluids. On the transverse section of the trunk of woody plants, particularly the oak, they appear in the form of the radii of a circle, extending from the pith to the bark; and on the longitudinal cleft or fissure of the trunk of most trees, but particularly the elm, they appear in the form of fragments of thin and vertical laminæ, or plates, interlacing the ascending tubes in a transverse direction, and touching them at short intervals, so as to form with them a sort of irregular wicker-work, or to exhibit the resemblance of a sort of web. Such, then, being the close and complicated union of the plates and longitudinal tubes, the propulsion of the sap in the latter may be easily accounted for, as it is thought, by means of the alternate contraction and dilatation of the former, if we will but allow them to be susceptible to change of temperature; which susceptibility is proved, as it is also thought, from the following facts: on the surface of an oaken plant that was exposed to the influence of the sun's rays, the transverse layers were observed to be so considerably affected by change of temperature as to suggest a belief that organs which were still so restless, now that the tree was dead, could not have been formed to be altogether idle while it was alive. Accordingly, on the surface of the trunk of an oak deprived of part of its bark, the longitudinal clefts and fissures, which were perceptible during the day, were found to close during the night. But in the act of dilating they must press unavoidably on the longitudinal tubes, and consequently propel the sap; while in the act of contracting they again allow the tubes to expand and take in a new supply. This is the substance of the theory.

128. But, in drawing this grand and sweeping conclusion, Keith has well remarked, that it should have been recollected, that change of temperature cannot act upon the transverse layers of a tree that is covered with its bark, in the same manner as it acts upon those of a tree that is stripped of its bark, or upon those of a plank; and if it were even found to act equally upon both, still its action would be but of little avail. For, according to what law is the machinery of the plates to be contracted and dilated, so as to give impulse to the sap? According to the alternate succession of heat and humidity? But this is by much too precarious an alternation to account for the constant, and often rapid, propulsion of the sap, especially at the season of bleeding. For there may be too long a continuance of heat, or there may be too long a continuance of humidity; and what is to become of the plant during this interval of alternation? If we are to regard it as happening only once in the space of twenty-four hours, as in the case of the oak, it can never be of much efficacy in aiding the propulsion of the sap. But if we should even grant more, and admit the alternate contraction and dilatation of the vessels to be as frequent as you please, still their effect would be extremely doubtful, owing to a want of unity or co-operation in the action of different plates, or of different portions of the same plate. If heat, like humidity, entered the plant by the

root, and proceeded gradually upwards, like the ascending sap, perhaps it might be somewhat efficacious in carrying a portion of sap along with it; but as this is not the case, and as the roots of plants are but little affected by change of temperature, while the trunk and upper parts may be affected considerably, it can scarcely be supposed that the action of the plates will be uniform throughout the whole plant; or rather, it must be supposed, that it will often be directly in opposition to that which is necessary to the propulsion of the sap. But, admitting that the sap is propelled by the agency of the plates in question, and admitting that it has been thus raised to the extremity of the woody part of the plant, how are we to account for its ascent in such parts as are yet higher; the leaf-stalk and leaf, the flower-stalk and flower; as well as in the herb also, and in the lofty palm, in which no such plates exist? Here it will be necessary to introduce the agency of a new cause, to complete the work that has been thus begun, and of a new set of machinery to supply the deficiency or absence of the machinery that has been already invented.

129. How unsatisfactory the best of these theories is, must be self-evident, even to persons unacquainted with the structure of vegetables. Du Petit Thouars has, therefore, with his accustomed ingenuity, proposed a new hypothesis, which to us seems by far the least objectionable which has yet been contrived. He dismisses the question of the mechanical action by which the motion of the sap is maintained; thinking, with much justice, that no principle of physics, with which we are acquainted, is sufficient to explain it; and he therefore attributes the mere motion to an inherent power, with which nature has been pleased to endow vegetables. But the cause of the renewal of its motion in the spring, after remaining in a quiescent state for several months, he ascribes to the necessity of maintaining a perfect equilibrium in the system of a plant. So that, if a consumption of sap is produced at any given point, the necessity of making good the space so occasioned, consequently throws all the particles of sap into motion, and the same effect will continue to operate as long as any consumption of sap takes place. The first cause of this consumption of sap he declares to be the development of the buds, and already formed young leaves, by the stimulating action of light and heat, but particularly of the latter. As soon as this development occurs, an assimilation and absorption of sap is occasioned, for the support of the young leaves; a vacancy in the immediate vicinity of the leaves is produced, and motion immediately takes place.

130. We will not occupy ourselves with an explanation of the cause of the descent of the sap: gravitation will serve the purpose, in the room of a more plausible conjecture.

131. But, notwithstanding all the differences which exist among trees, they approach each other by insensible degrees; and yet they individually retain a peculiar set of characters, and a physiognomy, which botanists call habit, that renders it easy to distinguish them at great distances; and more easy to eyes habituated to the

sight of them, by practice and long familiarity, than by the aid of theory.

132. Hot countries are beautified, however, by a description of tree, the differences of which are exhibited in an unusual degree. In these regions exist the palms, that patrician order of plants, as Linnæus termed it, which supports an umbrageous undulating tuft of huge leaves, seated on the summit of a lofty columnar trunk. Here you have no longer an infinite division of branches, as in our trees of Europe, but a trunk of the greatest possible simplicity, covered with rigid scales, or marked by distant circles. If an observer notices a considerable number together, of different ages and sizes, he will perceive that the smallest and the youngest are entirely the same as the largest, except in dimensions. They possess an equal quantity of leaves, their trunks are of equal diameter, and they differ only in stature. Carrying observation yet farther, it will be found that the trunk is not formed, as in European trees, of concentric circles of wood, but that it is formed by the assembly of a vast number of parallel fibres, which extend from the roots to the summit, and every one of which has its communication with a leaf. No trace of pith is discoverable in the centre, nor of liber or bark in the circumference; but the whole body of utricular or parenchymatous matter exists dispersed among the fibres.

133. To understand this peculiar manner of growth, recourse must again be had to the seed, and to its germination. This is easily examined, the seed of the palm-trees being often among the largest in nature. The part, however, by which reproduction takes place, is wonderfully small for the size of the seed; and lies hidden in a peculiar substance of great dimensions, which is called the albumen.

134. This embryo is oblong, and manifests no trace of division, or of separation, at either extremity. As soon as the period of germination arrives, the exterior extremity elongates and opens, producing a kind of sheath, from the base of which descends a root, and the other extremity of which is always retained in the albumen. This sheath encloses a second, which is rather longer; a third appears, becoming yet longer and longer; from one of the sides of the next is unfolded a kind of plaited leaf. Following each other in succession, the one from the bosom of the other, they at length assume the appearance of the adult leaves, differing from them only in dimensions. The parts of the leaves, continually dilating, expand, and throw off the scales which first appeared; and this centrifugal dilatation goes on till a sort of foundation is laid, which is incapable of growing in any direction except in breadth. Roots go on increasing under ground. Finally, a kind of base is formed, of a far more considerable diameter than the future trunk, or stipes; which then shoots upwards, and increases regularly in dimensions, by the successive development of leaves. These are enclosed, one within the other, in a peculiar manner, and constitute a bud of a particular description. Each has a tendency to rise to a fixed height above that which contained it; the old leaves, as they complete their functions, either fall off wholly,

leaving only a scar behind, or partially, still continuing to clothe the stem with their remains. As soon as this stipes, or trunk, has acquired a certain elevation, bunches of flowers make their appearance in the axillæ. Sometimes they expand among the leaves, as in the date and cocoa nut; sometimes they appear from the stem, as in the areca nut. Although they do not appear till the trees have acquired maturity, they are formed long before. Traces of them may be discovered among the first leaves which are developed; but vegetation, powerfully attracted upwards by the summit, gives them no leisure to unfold themselves, till some check is given to the increase of the tree.

135. We have seen that a section of a dicotyledonous tree presents a series of concentric circles, which are, in fact, the register of its life. The scars or the scales of palms offer a similar, and not less certain, chronology of their past existence; and if you search the interior of their bud, or, as it is often named, their cabbage, which is one of the most delicate of foods, you will find that it is equally easy to read its future history. You will there find, without the aid of glasses, flowers and leaves already formed, which will not be finally produced till several years subsequently.

136. For example, in a species of euterpe, found on the Island of Bourbon, the flowers are visible eight years before they are expanded. The summit is formed of twelve leaves, each supplied with a bunch of flowers in its axilla. These leaves only expand each year, so that four years will have elapsed between the expansion of the first flowers and of the last, although even the former were discoverable four, and the latter eight, years previously.

137. Here, then, we have a mode of germination and development very different from those of European plants. It is not, however, peculiar to palms; but is found, at least in an analogous manner, in a great number of the herbs which are natives of our latitudes. Only hot countries produce other trees with a similar peculiarity of organisation. These differences have given rise to the establishment of two great divisions in the vegetable kingdom. Those plants of which we first treated are called dicotyledons, on account of the two lobes or cotyledons of their embryo; those which have been last under discussion are named monocotyledones, their embryo being provided with one cotyledon only.

138. If it were necessary to have recourse to an examination of the seed, whenever it was necessary to ascertain to which of these two great divisions a given plant belonged, few persons would be found who possess either the patience or opportunity required for ascertaining what is often a very minute point. But, fortunately, this division, which is founded in nature, possesses many external characters, which are quite as available as those of the seed. Before explaining them precisely, we will place two common plants under examination.

139. The first is the common onion. The seed of this plant, like the palm, but of much smaller dimensions, consists of an elongated simple embryo, placed in the midst of albumen.

Its extremity, which is protruded by germination, becomes longer. One end becomes thickened, and buries itself in the soil, whence proceeds the root; the other end is elevated, and bears the seed, like a little cap. Presently a green color pervades it, and we can no longer doubt that it is a genuine leaf. A little above the root is a small lateral slit; from this a second leaf is produced, a third follows, and so on. Each is enclosed within the other, as in the palm; and, like it, they all direct their efforts to produce a kind of base; by these means the dilatation of the root takes place; and, the centre constantly forcing the interior outwards, a true onion is at last the consequence. The leaves, withering up as soon as they have performed their functions, perish, and leave behind them nothing but their fleshy sheaths, the most exterior of which wither and perish also; the interior retain their fleshy and swollen habit. As soon as the period of fructification has arrived, a simple leafless stipes is elevated from the centre of the root, and puts an end to the existence of the individual, except when buds exist among the leaves and give birth to what are called off-sets.

140. The second example, which is equally familiar, shall be that of wheat. The valuable seed which is borne by this herb is, like that of the onion and the palm, formed of albumen, which is what we know under the name of flour, and of an embryo, which reposes at its base. The latter is a little different in figure from the two others; but, like them, it gives rise to a sheath, out of which in succession scales and then leaves arise. At the base of each sheath or leaf, in the inside, is found a bud, which is speedily developed, and contributes to form the tuft of herbage, under which appearance the plant is seen in its earlier stages. But, as soon as the flowering season arrives, a stem of a particular description is produced. Each leaf becomes separated from that which is next it by a considerable space; these spaces are hollow, and partitioned off by a particular kind of division. This kind of stem is called a culm. It is now obvious that there is something peculiar in the manner of growth of the monocotyledons, which distinguishes them from dicotyledons. The leaves, however, offer marks of a more decisive kind. We have already seen, that in dicotyledonous plants, the nerves of the leaf resemble a sort of net-work, but in monocotyledons have a parallel and rectilinear direction, passing without interruption from one end to the other; that is to say, those fibres which are nearest the principal rim, run alongside it as far as the tip, where they are lost in the margin; and all the fibres affect the same direction. Hence the almost constant elongated form of their leaves, which are in some sorts comparable to the blade of a sword, being broadest at the base, and terminating in a point. You rarely can perceive the crenatures, or denticulations, or lobes, which are so common in the leaves of dicotyledons.

141. The flowers also offer some aid in distinguishing these two great classes from each other. The number of parts, which is so variable in most plants, appears almost fixed in monocotyledons. Every organ of fructification

is arranged in a ternary mode, simple or double, or multiple. Dicotyledonous plants are much less constant; nevertheless, the number five, simple or multiple, is more commonly peculiar to them than any other number. It is extremely difficult to assign a cause for this peculiarity; perhaps it is to be sought in the manner in which the fibres first proceed from the parent embryo.

142. Having thus examined the progress of development in the internal parts of a plant, and considered them with relation to their functions, we will conclude the subject of Vegetable Physiology by some remarks upon their variations. We have already seen, that the constituent parts of plants are, cellular tissue, woody fibre, and spiral vessels.

143. The *Cellular Tissue* consists of fine and membranous utricles. Individually, they resemble oblong bladders inflated in the middle, as in the case of some plants; or circular or hexagonal cells, as in the case of others. Collectively, they have been compared to an assemblage of threads of contiguous bladders or vesicles, or to the bubbles that are found on the surface or liquor in a state of fermentation.

144. But this description is applicable to them only as they occur in herbaceous plants; though in either case they are not always of the same figure, in all the different parts of the same plant. In the leaf-stalk of the artichoke, for example, their diversity of figure is very conspicuous, presenting, in their free and uncompressed state, whether on a horizontal or longitudinal slice, a beautiful assemblage of hexagonal cells; but in their crowded and condensed state, as they approximate the longitudinal fibres, an assemblage of tubular threads, successively inflated and contracted. In woody plants their diversity of figure is still greater, as must appear evident if it is but recollected that they constitute not only the bags or bladders of the cellular integument and pith, and of the pulp of the leaf and fruit, but also the very fabric of the divergent layers themselves; assuming a peculiarity of aspect, according to the degree of compression they sustain from other parts; or according to the degree of induration they may have undergone, ascending progressively, from the succulent texture of the pulp and pith to that of the firm and perfect wood.

145. The structure of the utricles of the tree is also said to be different from that of the utricles of the herb; the former being composed of a single membrane, and the latter of a double membrane. Senebier is, however, of opinion, that they consist of a double membrane in both cases, though not so conspicuous in the one case as in the other, owing to the more compact and condensed texture of the wood. However, they are all mutually connected with one another, and also with the other vessels of the plant; which double union is rendered evident by means of colored injections, or rather by means of the absorption of colored infusions, from which the utricles, as well as the longitudinal tubes, always receive a tinge. But in the petals, stamens and pistils, they do not seem to be connected with the longitudinal vessels, as in the other parts of the plant; and perhaps they are also somewhat

peculiar in their organisation, as may be inferred from the following fact, namely, that the white and milky juice with which they are filled in the stem and branch of the fig does not ascend above the peduncle. In the pith they are generally larger than in any of the other parts of the plant; and in plants from which part of the trunk has been cut off, it has been remarked that they become altogether larger and more inflated than in plants of the same species that have not been so treated; which enlargement is perhaps to be accounted for on the superabundance of sap that now pervades them, in consequence of the diminished bulk of the vegetable. Senebier speaks of other utricles, distinct from those of the parenchyma, by which he means the pulp or pith, but without saying anything explicit on the subject, and without representing them as different in form.

146. The *woody fibre* is made up of tubes of two kinds, which have been distributed into large tubes and small tubes. The large tubes are distinguishable by the superior width of the diameter which they present, on the horizontal section of the several parts of the plant.

147. In herbaceous plants, they are represented, by M. Mirbel, as being always found in the centre of the longitudinal fibres; while in woody plants, they are often dispersed at random; though they occasionally form regular groups, which are sometimes concentric circles, constituting the principal mass of the ligneous layers. They are generally to be found in great abundance surrounding the medullary canal. They are found also in the bark, and are capable of being traced from their origin in the extreme fibres of the root, to their termination in the extreme summit of the plant; uniting in the body of the root, traversing the collar, penetrating and ascending the stem in a parallel direction, separating and entering the branches, buds, and foot-stalks; separating again, and distributing themselves in smaller bundles, so as to form the nerves and veins of the leaves and petals, the slender fibres of the stamens and pistils, and the firm and woody fibres of the fruit. In the lichens, fungi, and fungi, no large tubes are discoverable, even with the aid of the microscope; though in the transverse section of most other plants they are visible without a microscope.

148. The simple tubes, which are the largest of all the large tubes, are formed of a thin and entire membrane, without any perceptible description of continuity, and are found chiefly in the bark, though not confined to it, as they are to be met with also both in the albumen and matured wood, as well as in the fibres of herbaceous plants. But they are particularly conspicuous in the stem and other parts of the different species of *euphorbia* and *periploca*; and in all plants, in general, containing thick and resinous juices, known by the name of the proper juices, to the ready passage of which their great width of diameter is well adapted. Sometimes they are distinguishable by their color, which is that of the juices contained in them, being white as in *euphorbia*; or yellow, as in *celandine*; or scarlet as in *pisidia erythrina*. In this plant they are united in bundles, but are

detachable from one another by means of being steeped for a few days in spirit of turpentine, when they become altogether colorless and transparent, because the resinous matter which they contained has been dissolved. Senebier says they retain their cylindrical form even in their detached state; and if so, the membrane of which they are composed must be very strong. The porous tubes resemble the simple tubes in their general aspect; but differ from them in being pierced with small holes, or pores, which are often distributed in regular and parallel rows. They are found in most abundance in woody plants, and particularly in wood that is firm and compact, like that of the oak; but they do not, like the simple tubes, seem destined to contain any oily or resinous juice.

149. The *spiral vessels* are fine transparent and thread-like substances, occasionally interspersed with other tubes of the plant; but distinguished from them by being twisted from right to left, or from left to right, in the form of a cork-screw. They occur in most abundance in herbaceous plants, particularly in aquatic; but they are also to be met with in woody plants, whether shrubs or trees. If the stalk of a plant of the liliaceous tribe, or a tender shoot of the elder, is taken and partly cut across, and then gently broken or twisted asunder, the spiral tubes may be seen with the naked eye, uncoiled somewhat, but remaining still entire, even after all the other parts have given way; and, if the inferior portion of the stalk is not very large, it may be kept suspended for some considerable time merely by the strength of the tubes, which though now almost entirely uncoiled, by means of the weight they support, will, when they finally break, suddenly wind up at each extremity, and again resume their spiral form.

150. Grew and Malpighi, who first discovered and described them, represented them as resembling in their appearance the trachea, or wind-pipe of animals, and designated them by the same term; an appellation by which they are still very generally known. Du Hamel endeavoured to convey an idea of their form, by comparing it to that of a piece of riband rolled round a small cylinder, and then gently pulled off in the direction of its longitudinal axis. The figure of the riband becomes thus loosely spiral. This is a very good illustration of the figure of the spiral tubes in their uncoiled state, but it does not represent them very correctly as they exist in the plant. But the best illustration of this kind is perhaps that of Dr. Thomson's. Take a small cylinder of wood, and wrap round it a piece of fine and slender wire, so as that the successive rings may touch one another, and then pull out the cylinder. The wire, as it now stands, will represent the spiral tubes as they exist in the plant. And if it is stretched, by pulling out the two extremities, it will represent them in their uncoiled state also. But, although the spiral tubes are to be met with in almost all plants, they are not yet to be met with in all the different organs of the plant; or, at least, there are organs in which they occur but rarely, or in very small numbers.

They do not seem to occur often in the root, or at least they are not easily detected in it.

Grew and Malpighi, do indeed, represent them as occurring often in the root, the former referring for examples to the roots of plants in general, and the latter to those of the asparagus, poplar, convolvulus, elm tree, and reed; all of which, Keith says, 'I have examined with great care, without being able to discover any spiral tubes. Senebier says he found them in the root of the balsams and thorn-apple; in examining which I was equally unsuccessful as in examining the former. I cannot, however, doubt the accuracy of the observations of the above phytologists, and can only set down my own want of success in discovery to the score of some defect, either in the specimens examined, or in my mode of examination. Indeed, the only root in which I have ever found them, after examining a very considerable number, is that of the common garden lettuce, know by the name of *cos* lettuce. Having taken the root of a plant that was just putting out its flowers, and stripped it of its bark, I then cut it partly across, about the middle of its length, and broke the remainder of it gently asunder. On examining the surface of the fracture with the microscope, fragments of spiral tubes were seen projecting from it near the centre. They did not seem very tenacious of their spiral form; and when once uncoiled did not readily resume it.'

151. The spiral threads are to be found also in the stem and branch; but not in all parts of them; or at least not in all periods of their growth. It seems very doubtful, whether they exist at all in the bark. Daubenton professes, indeed, to have seen them in it; but no one else ever has; so that we are, perhaps, sufficiently well warranted in entertaining our doubts. It seems also very doubtful, whether they exist in that part of the stem which consists of matured wood, though Daubenton professes to have seen them in the wood of *cedrela*; in which case he does not altogether stand alone; as they are represented both by Grew and Hedwig, as visible also in the wood. But they have not been found in the matured wood by any other vegetable anatomists. Du Hamel never met with them in any of the woody parts of woody plants, except in the young and herbaceous branches. Mirbel expresses himself to the same effect. And Mr. Knight, who has examined the subject perhaps still more recently, could not detect them in any of the permanent parts of such plants, except in the annual shoot. Keith's observations on this subject have had nearly a similar result. Among many subjects of examination he mentions only the elder, willow, hawthorn, cherry, and elm tree. In the three former, he found them only in the annual shoot, situated immediately without the pith, or rather imbedded in the alburnum; though in the elder some of them seemed to be imbedded even in the pith itself. In the cherry he found also a very few, similarly situated, in the branch of two years old; but none in wood older than that. And in the elm tree he has thought he had discovered them even in the matured wood. Having placed under the microscope a very thin slice, taken from a piece of the trunk of an elm tree, that had been felled at least six or seven

years, he thought he was able to trace the remains of the spiral tubes. The slice was taken from the surface of a longitudinal section passing through the centre of the trunk, and clear of divergent layers; and the tubes seemed to appear most distinct when the slice was so placed as to present their longitudinal dimensions to the light. They seem to resemble ribands wrapped spirally round a cylinder, rather than to form separate vessels, which corresponds very well to their appearance, even in the succulent parts of many plants, as described by Knight. Some of them seemed even separate and entire. And yet, upon repeated observation, he has not been able to satisfy himself entirely on this point; but he has stated the case circumstantially, as being the probable means of inducing some one to take up the subject, who may be more felicitous in his investigations. It cannot be said to be a vain or fruitless enquiry. For as they are known to have existed at least in the tender shoot, it will follow that they must exist, in one shape or other, in the matured wood also. And if their spiral form is there obliterated, under what other aspect do they now appear? It seems certain, from the observations of Hedwig, that they assume a different figure in different stages of the plant's growth. In the peduncle of the *colchicum autumnale*, the rings of the tubes are closer when it begins to appear above ground, than at the time of flowering, from which he concludes, that they are at length entirely obliterated, and the tubes converted into woody fibre. But sometimes it is difficult to detect them, even in the young shoot; though they are generally to be observed by breaking it gently asunder, and then examining the surface of the fracture with a microscope. In this case they appear in small fragments, projecting from the surface, and somewhat uncoiled; but if the shoot is split longitudinally, a portion of them will sometimes be found extended longitudinally on the surface of the fissure in an uncoiled state.

152. In the stem and branches of herbaceous plants, they are generally discoverable, without much difficulty, accompanying the longitudinal fibres, and forming part of the bundles. Keith has found them in the stem and branches of the burdock, even in winter, when the fragments of the mature plant had become quite indurated by means of their exposure to the weather.

153. They are also very easily detected in the foot-stalk, both of the leaf and flower, accompanying, or rather seeming almost entirely to compose, the bundles of longitudinal fibres. This may be well exemplified in the leaf-stalk of the artichoke, when young and fresh, in the fibres of which they are not only remarkably large and distinct, but also remarkably beautiful; some of them exhibiting in their natural position the appearance of spiral coats, investing interior fibres, rather than that of forming a distinct tube, and seeming when uncoiled to be themselves formed of a sort of net-like membrane.

154. They are discoverable also in the leaf, though not quite so easily detected as in the leaf-stalk. But if a leaf is taken and gently torn asunder in a transverse direction, fragments of the spiral tubes will be seen projecting from the

tern edges, and generally accompanying the nerves.

155. They are also to be found both in the calyx and corolla, but not so generally as in the leaf, on which account some botanists have decided rather too hastily with regard to their non-existence in these parts of the flower. Mirbel says, no tracheæ are to be found in the calyx nor in the corolla, except in the claw. But Keith has found them most unequivocally in the calyx of *scabiosa arvensis*; and also in the expansion of the corolla of the same plant, as also in the calyx, both proper and common, of *dipsacus sylvestris*, and in the corolla of the honey-suckle, in which they appear to be placed within the nerves, or at least to be closely united to them.

156. In the other parts they do not seem to occur frequently, or at least it is difficult to detect them. Malpighi represents them, indeed, as occurring in the stamens, but Keith was not fortunate enough to meet with them in the stamens of any flower he examined. He looked for them also in the style of many flowers, and found them in that of the honey-suckle only.

157. According to the observations of Grew and Malpighi, they are to be met with both in fruits and seeds; though Hedwig says, they are not to be seen in the cotyledons, except during the process of germination, and that only by means of their being moistened with some colored infusion. But Gærtner says, they are conspicuous in the thinner cotyledons, even before germination takes place; and Reishel is said to have detected them even in the plumelet and radicle.

158. But, in whatever part of the plant they are found to exist, they are always endowed with a considerable degree of elasticity, as has been already noticed. For though they are forcibly extended, so as wholly to undo the spires, they will again contract, and resume their former figure, when the extending cause is withdrawn; and if they are even stretched till they break, the fragments will again coil themselves up as before. It has been said, however, that those of the *butomus umbellatus*, if once uncoiled, will contract again no more. But this is true only when they are stretched to a great length. For when they are stretched gently and moderately, they will again contract, as has been proved by experiment.

159. Malpighi, in the course of some observations on the spiral tubes during the winter season, fancied he had perceived a sort of vermicular and spontaneous movement in them. But he thought he saw this movement only once, and as it has never since been seen by any subsequent observer, it appears that we must be content to set it down to the score of microscopical deception, or to the effect of the atmosphere upon the tubes when exposed to its action.

160. We have now run over the differences of the most important kind, by which the functions of what Darwin not inaptly called the viviparous system of vegetation, are affected. Let us now proceed to consider the nature and destination of the oviparous system, or of the parts of reproduction by seed. As the former depend upon

internal organisation, so do the latter upon external peculiarities.

161. Hitherto we have scarcely spoken of the flower; that brilliant ornament of plants, which attracts admiration by the splendor of its colors, and the delicacy of its texture, by the delicious perfume which it exhales, and by the wonderful mechanism with which it is constructed. Its base, which acts as an external envelope, is ordinarily of a green color, and is called the calyx. The next envelope, which is the most striking, as it is in it that the beauty of the flower resides, is the corolla. Then succeed the stamens, which are generally delicate threads, terminated by a dilatation of a particular nature; and the pistillum, consisting of ovarium and stigma, which in time becomes the fruit. These parts generally exist all in a single flower, which is then termed complete; if a part of the members is absent, the flower is termed incomplete. Each organ is susceptible of an infinite variety of combinations and modifications in form, in number, in station, in proportion, or in structure, which give rise to the smaller divisions of vegetables called genera. These will be noticed hereafter. The functions only of the organs are to occupy our attention while treating of Vegetable Physiology.

162. The most easy to observe is the corolla; which is composed of one or more pieces called petals; in the former state it is monopetalous, in the latter polypetalous. The petals are either equal or unequal in their form or insertion, whence corollas are either regular or irregular.

163. The stamens appear, from their position, to bear a direct relation with the corolla; thus, in almost all monopetalous flowers, they originate from the corolla itself; but in polypetalous flowers this more rarely happens; then, however, they maintain so many relations with the petals, being alternate or opposite to them, and equal or double or multiple in number, that it is impossible to doubt of the strict alliance by which they are connected. The calyx has a yet more strict analogy with the corolla, the divisions of which are almost always equal in number to those of the calyx, and alternate in insertion, especially when the corolla arises immediately from the calyx. It often happens that it arises from a particular place which is called the receptacle. These three parts, then, have a great analogy with each other; so that one does not vary in the number of its divisions, without affecting the two others by the change. They are themselves, however, subordinate to the pistillum.

*163. There is generally only one pistillum in flowers; occasionally two or more: but these variations in number are independent of the other organs. The ovarium has then a more obvious relation: it is seated in the centre of the flower, at the bottom of the calyx, to which it is attached by its base; sometimes a cohesion takes place between the sides of the calyx and ovarium, which latter then appears to support the flower like a footstalk. From these two modifications arise those two important distinctions among plants, of ovarium superius, or separate from the calyx, and ovarium inferius, or adhering to the calyx; differences which are of extreme importance in

characterising many of the most natural of the systematic combinations of modern botanists.

164. In some flowers the corolla disappears, or is not developed, in others the calyx seem to be wanting. Touching this fact, has arisen a disquisition, which seems to have no end, as to what name ought to be applied to the envelope of a flower when one envelope only is present. By whatever name this single envelope may be called, it bears the same relation to the other parts as the calyx and corolla when both are present; it is in some cases itself almost obliterated, and there are some flowers which consist only of stamens without corolla, and which are then called naked.

165. When both calyx and corolla exist together or one of them only, another set of organs occasionally disappears, namely the stamens, and then the pistillum is found alone in the centre; but in this case it always happens, that, either upon the same plant or upon a different individual, flowers exist which contain stamens only, and no pistillum. Sometimes both organs are developed without covering, and separate from each other. However these two parts may be separated from each other, they always appear at the same period of time, and, ever since the study of plants has been an object of philosophical research, no instance has been found of a perfect plant in which both organs did not co-exist.

166. It appears therefore, from this example, and from many others which could be brought forward, that the stamens and the pistil are the only essential parts of a flower; a fact which is not surprising as far as the pistil is concerned, because we have seen that it contains the rudiments of the future progeny. But what manner of influence is exercised by the stamens? If we examine them in every flower within our reach, we shall find that they have a similar structure: we shall see that they consist of two parts, the upper resembling a little bag, generally yellow, and always divided into one or two cells, which contain a kind of powder, and the lower resembling a thread-like stalk to the former. The former is called the anther, and the latter the filament. The powder which it contains, examined through a microscope, consists of granules, varying in size and form according to their species, and sometimes so remarkably, that it is often possible to distinguish genera by the inspection of the granules only. Thrown into water they swell, and eventually burst, emitting a peculiar fluid which resembles vapor. The name given to the granules is pollen.

167. From the combination of these observations, we come to an important discovery; we perceive that the petals, with the brilliant tints of every color of the rainbow, are in fact the curtains of the nuptial bed of Flora, within the protection of which the mysteries of generation are accomplished. We have, therefore, sexes in plants; these, indeed, appear almost indispensable. In most animals they are separated; but in vermes we see them confounded, and at length disappear entirely. The want of the power of motion in vegetables renders their union in one individual of great importance. But, as if the resources of nature were illimitable, they are in

some cases separated upon the same tree, or upon different trees, and the agency of the wind or of insects, is requisite to enable them to accomplish their destiny.

168. The relation, therefore, of the stamens to the pistillum, gives rise to some further considerations. When they are united in one flower, the flower in that case is called hermaphrodite; if they are in separate flowers, it is declinuous; it is monœcious when the male and female are present in different flowers of the same individual; diœcious, if in flowers of different individuals. Some plants have male and female flowers mixed with such as are hermaphrodites; then they are called polygamous.

14. The pistillum offers a multitude of most important characters. Its ovary is terminated by one or several styles, and each of the latter has one or more stigmata. The ovarium either contains only one rudiment of a seed, called an ovulum, or several, and is divided internally into one cell or many.

170. The fruit, which is the necessary consequence of the ovarium, is generally like it in the number of its parts; the occasional abortion of some one of the latter, is the only way in which the number of parts is smaller in the fruit than in the ovarium. The form, the texture, and the volume of fruit give rise to an infinity of differences. Thus one sees, on the one hand, soft pulpy fruit, and, on the other hand, nuts, the shell of which is hard as wood itself. The manner in which the seeds are attached is also subject to variation, for they either proceed from a central receptacle, or from the paries of the fruit. The point from which they proceed is, in all cases, called the placenta. This organ is of great importance; for it is not only the medium through which the fecundating effluvia of the pollen is communicated to the ovula, but also through which the juices are elaborated, which are required for the development of the embryo. It may be compared to the placenta of animals.

171. The position of the embryo, with relation to the fruit, is also a point of importance. Thus the axis of the seed may be parallel with the axis of the fruit, and fixed by the basis, which is the most natural position; then the seed is called erect. It may become horizontal; or being affixed to the summit of the cell it may become inverted; it is in the latter case said to be pendulous. For various modifications of the position of the seed, see SEED, under PURE BOTANY.

172. Each seed may be considered as an isolated individual; for nature has prepared them for separation from their parent without inconvenience. Their interior consists of a substance of various degrees of texture, which is called the albumen, and of the fleshy body already mentioned as the seminal embryo. The albumen may be absent, the embryo must be present. The coat of the seed consists of two layers, the interior of which is much more membranous than the exterior.

173. But now arises a problem in vegetation which it is very important to resolve. Whence is the origin of the flower? Linnæus has offered an explanation, which he considered capable of of meeting every difficulty, and which he bor-

rowed from Cæsalpinus, whose knowledge ran far beyond that of his age. According to these two authors the flower is only a manifestation of the interior of a plant. The epidermis and cuticle give rise to the calyx, the fibre to the corolla, the woody fibre to the stamen, and the pith to the pistillum; this last part is the most essential, and the centre of vegetation; the others are only accessory.

174. But this ingenious notion, like many other brilliant hypotheses, will not bear a strict scrutiny. The nature of the pith is now better understood, and instead of being a creating organ, it is itself, in fact, a body in a state of disorganisation. A single fact has overthrown the whole theory: this is the more intimate knowledge of the interior of palms, and other monocotyledonous trees. According to the arrangement of their interior, and the mixture of the pith and woody fibre, it would happen, if Linnæus's theory were true, that the flowers of the palm would have quite another arrangement from that of other plants, and that the parts would neither be arranged round a centre, nor be placed in the same relation to each other.

175. It appears certain, that, notwithstanding the striking differences which all parts of a flower exhibit, they have all the same origin; which is indicated by the propensity they all have, under certain circumstances, of changing into each other from circumference to centre, or of reverting to one common appearance; which is that of the leaf. Upon this subject Mr. Lindley remarks, 'that it is well understood that the universal principle upon which perfect vegetables are formed, is by the continual addition of parts one above the other, round a common axis, which is produced by their accretion. This law is not confined to the production of foliage, or branches only, but must be considered to extend to the ultimate point of vegetable development in the ovary; and seems to indicate that the progress of nature is continually onwards. Unless, therefore, it should be shown that the order of alteration in the structure of organs so produced is in monstrous formations reversed, it would be a reasonable inference that nature follows her usual course in transformation, as well as in original production; and that the changes which particular portions of a flower may undergo, always have the character of that series which is placed next them in the inside, and not of that on the outside. The consequence of the prevalence of such a law would therefore be this, with respect to the formation of double flowers, that bractææ, if present, would change into calyx, calyx into petals, petals into stamens, and stamens into ovaries; and that the reverse of that order could not take place.'

176. It may thence be concluded that a flower is a leaf-bud in a particular state of alteration; that the calycine lobes, the petals, the stamens, the pistillum, are all leaves in an altered form, and that they have all a tendency, which may now and then manifest itself, of assuming their primitive habit and structure. Whence they arise, or in what way this extraordinary metamorphosis takes place, we are as yet unable to determine.

177. The pistillum, which is the terminating point of the line of vegetation, is now ascertained to be, not, as was formerly supposed, an anomalous organ, which was referable to none of the simple types upon which the other parts of fructification are modelled, but a leaf or leaves also in a state of greater affinity to their type than any other organ. The style is an alteration of the middle nerve, the stigma a secreting surface proceeding from the tip of the same part, the sides of the ovary the two halves of the leaf, and the placenta the edges of the leaf. This is tolerably obvious in a strictly simple unilocular ovary, such as one segment of a *Pæony* fruit. But in a many-celled pistil it is not so apparent. Mr. Robert Brown, however, has demonstrated, that all multilocular compound ovaria are merely an aggregation of a number of simple ovaria round a common axis; that the cells are occasioned by the interposition and cohesion of the sides of simple ovaria, which in that state are called dissepiments.

178. Besides the plants which are furnished with a flower, there are others in which no apparent flowers exist, which are constructed differently from either monocotyledonous or dicotyledonous plants, and whose methods of reproduction are quite of another nature. These plants are called cryptogamous, and consist of ferns, mosses, hepaticæ, lichens, algæ, and fungi. They are all supposed to be destitute of cotyledons, whence they are also named acotyledonous.

179. In ferns, which are by some authors referred to monocotyledons, the mode of growth resembles in some measure such plants. The grain from which they are reproduced, and which is called a sporule, in germination dilates into a very small leaf of a particular kind, which successively gives rise to others, which finally acquire the stature and the form of adult leaves. A species of trunk or stipes, similar to that of the palm, creeps along the surface of the earth, or elevates itself above it. Its internal structure separates it as far from monocotyledons as from dicotyledons. It has, however, at the first sight, the greatest resemblance to the former; a section of it offers, as in monocotyledons, certain scattered points, among a mass of parenchyma. These points, which vary in almost every different species, are a section of a peculiar substance, which is divided at the base, and united at the summit, and which may be compared in texture to the liber of dicotyledons. It is surrounded by a fur, which is more or less apparent, and more or less deeply colored, and which seems analogous to the woody texture, especially as in arborescent ferns it is that which forms the solid substance. Both these substances are distributed among the nerves of the leaves, which are simple, ramified, or verticillated, according to the species. In the opinion of a celebrated modern physiologist, a fern may be considered as a plant turned inside out.

180. The remaining classes of cryptogamia consist entirely of cellular tissue, amassed in different proportions, and under various forms. They are destitute of woody vessels or of tracheæ, and have no distinction between bark, wood, and epidermis; they may perhaps be considered

to consist wholly of the latter and former confounded.

IV.—PURE BOTANY.

181. We have thus considered botany with respect to its analogies, its history, and its physiology. It now remains for us to explain its practical details, as applied to what is called SYSTEMATIC BOTANY, or the science of arranging the natural objects of which it consists.

182. The materials of this branch of the science are the modifications of parts; from a just application of these materials result classifications. We shall first attend to modifications.

183. All perfect plants consist, as has been already seen, of the following organs. 1. The Root; 2. the Stem; 3. the FOLIAGE; 4. the INFLORESCENCE; 5. the FLOWER; 6. the FRUIT. Each of these organs must be considered separately. But, before entering upon an explanation of the peculiarities of each of them, it will be proper to notice the terms used in speaking of their size, surface, and color; these terms being applicable to each of the six parts into which a plant is divisible.

184. There are eleven terms which are employed to designate the size or measurement of a plant or its parts, viz.:

1. A hair breadth (capillus), the measure of a hair, or the twelfth part of a line.

2. A line (linea), the length of the white crescent at the root of the nail of the middle finger, or the twelfth part of an inch.

3. A nail length (unguis), the length of the nail of the middle finger, or half an inch.

4. An inch (pollex, uncia), the length of the first joint of the thumb, the twelfth part of a foot.

5. A hand breadth (palmus), the breadth of the four fingers of the hand, or three inches.

6. A span (dodrans), as far as one can span with the thumb and the little finger, or nine inches.

7. A small span (spithama), as far as one can span with the thumb and fore finger, or seven inches.

8. A foot (pes), the length from the elbow to the wrist, or twelve inches.

9. A cubit (cubitus), from the elbow to the point of the middle finger, or seventeen inches.

10. An ell (ulna, brachium), the length of the whole arm, or four and twenty inches.

11. A fathom or toise (orgya), the length of the arms stretched out from the tip of one middle finger to that of the other, or six feet.

For these the following have been substituted by some French botanists:—

The millimètre = $\frac{441}{1000}$ of a line.

The centimètre = 4 lines $\frac{423}{1000}$.

The decimètre = 3 inches 8 lines $\frac{326}{1000}$.

The mètre = 3 feet 11 lines $\frac{206}{1000}$.

185. The surface of plants is of great importance in distinguishing the species and varieties of plants, but is not of value in generic discrimination. The terms which follow are, or ought to be, used precisely in the sense here ascribed to them; they are extremely well defined by Willdenow, who limits them thus:

1. Shining (nitidus), when the surface is so

smooth that it reflects the rays of light, and has a shining or glancing appearance, as in the leaves of the holly, *Ilex aquifolium*.

2. Dull (opacus), when the surface does not reflect the rays, and is entirely void of lustre.

3. Even (lævis), without striæ, furrows, or raised dots. It is the opposite of Nos. 6, 7, 23, 24, 25, 28, and 29.

4. Smooth (glaber), when there are no visible hairs, bristles or thorns. It is the opposite of Nos. 8, 22, 26 and 27.

5. Dotted (punctatus), where small fine dots are perceived by the eye but not by the touch. *Thymus vulgaris*.

6. Scabrous (scaber), where small raised dots are felt but not seen; as in *Carex acuta*.

7. Rough (asper), when these dots are both felt and seen. *Pulmonaria officinalis*.

8. Hispid (hispidus), beset with very short stiff hairs. *Myosotis arvensis*.

9. Hirsute (hirtus), where the hairs are moderately long but very stiff. *Echium vulgare*.

10. Hairy (pilosus), beset with long single hairs, somewhat bent. *Hieracium pilosella*.

11. Villous (villosus), where the hairs are long, soft, and white. *Stachys Germanica*.

12. Pubescent (pubescens), overgrown with short fine white hairs. *Oenothera mollissima*.

13. Silky (sericeus), when the surface is white and shining, by means of thick and almost invisible hairs. *Potentilla anserina*.

14. Woolly (lanatus), when the surface is beset with long thick white hairs, easily distinguished. *Stachys lanata*.

15. Tomentose (tomentosus), when fine hairs are so matted together that the particular hairs cannot be distinguished. In this case the surface generally appears white, as in *Verbascum*; or of a rust color, as in *Ledum*.

16. Bearded (barbatus), when the hairs are in tufts. *Mesembryanthemum barbatum*.

17. Strigose (strigosus), when the surface is armed with small, close-lying bristles, which are thickest below. *Lithospermum officinale*.

18. Stinging (urens), when a painful burning sensation is caused by small hairs. *Urtica*. Such hairs are called stimuli.

19. Fringed (ciliatus), when on the margin of a leaf, or the surface of a stalk, there is a row of hairs of equal length.

20. Warty (papillosus), when small fleshy warts appear. *Aloe margaritifera*.

21. Pustular (papulosus), when there are small hollow bladders. *Mesembryanthemum hispidum*.

22. Muricated (muricatus), armed with small short herbaceous spines. *Asperugo procumbens*.

23. Scaly (lepidotus), when the surface is covered with small scales closely placed, by which means the color is changed, as in *Elæagnus angustifolia*.

24. Mealy (farinosus), when the surface is thickly covered with a white powder, as in *Primula farinosa*.

25. Hoary (pruinosis), when the surface is strewn with a very fine white dust, like the fruit of some plumbs. *Prunus domestica*.

26. Glutinous (glutinosus), when the surface is covered with an adhesive matter, which is soluble in water. *Primula glutinosa*.

27. Viscid (viscidus), when the surface is covered with a viscid juice, which is resinous or greasy. *Cerastium viscosum*.

28. Striated (striatus), when the surface is finely streaked. *Aira caespitosa*.

29. Furrowed (sulcatus), when the streaks form small furrows. *Umbellæ*.

186. The following are the principal colors, which are distinguished by name: this part of the subject is extremely imperfect; and perhaps from its nature will always, like all distinctions depending upon so uncertain a power as that of discriminating between the delicate gradations of so unmanageable an agent as of light, remain in an imperfect state. The Latin names are necessarily employed from the want of equivalent expressions in the English language.

1. Cyaneus; dark blue, like Prussian blue.

2. Cæruleus; sky blue, like the flowers of *Veronica Chamædrys*.

3. Azureus; nearly the same as No. 2, but bright like ultramarine.

4. Cæsius; pale blue, verging towards gray.

5. Atrovirens; dark green, bordering upon dark blue.

6. Æruginosus; light bluish green, like verdigris.

7. Prasinus, saturatè virens, smaragdinus; grass green, without any tinge of yellow or blue.

8. Flavovirens; green bordering upon yellow.

9. Glaucus; green, bordering upon gray.

10. Aureus; golden yellow, without any foreign mixture.

11. Ochraceus; yellow, with a slight tinge of brown.

12. Pallidè flavens; pale or whitish yellow.

13. Sulphureus; bright yellow, like the flowers of the *Hieracium Pilosella*.

14. Vitellinus; yellow, with a slight tinge of red.

15. Ferrugineus; brown, verging towards yellow.

16. Brunneus; the darkest pure brown.

17. Fuscus; brown, running into gray.

18. Badius; Hepaticus; chestnut or liver brown, bordering on dark red.

19. Aurantiacus; orange, or a mixture of yellow and red.

20. Miniatus, or Cinnabarinus; deep red, like red lead.

21. Lateritius; brick color, like the former, but duller and verging towards yellow.

22. Coccineus, or Phœniceus; cinnabar color, with a slight tinge of blue.

23. Carneus; flesh color, something between white and red.

24. Croceus; saffron color, dark orange.

25. Puniceus; fine bright red, like carmine.

26. Sanguineus, or purpureus; pure red, but duller than the foregoing.

27. Roseus; rose color, a pale blood red.

28. Atropurpureus; very dark red, almost approaching to black.

29. Violaceus; violet color, a mixture of blue and red.

30. Lilacinus; lilac, the former color; but duller, and verging towards red.

31. Ater; the purest and deepest black.

32. Niger; black, with a tinge of gray.

33. Cinereus; ash color, blackish gray.

34. Griseus; lively light gray.

35. Canus; hoary, with more white than gray.

36. Lividus; dark gray, running into violet.

37. Lacteus, or Candidus; shining white.

38. Albus; dull white.

39. Albidus; dirty dull white.

40. Hyalinus; transparent, like pure glass.

187. The Root is divided by botanists into four principal forms, viz. the *Rhizoma*, or Roststock, by which is meant the thick fleshy part of a biennial or perennial root; the *Fibre*, or those parts of the root which have the appearance of threads; the *Tuber*, which is a solid fleshy root, furnished with buds on its surface, and being in fact a thickened subterranean stem; and the *Bulb*, which consists only of fleshy imbricated scales, as in the onion. Each of these is subject to a great variety of appearances.

1. The *Rhizoma* is,

1. Woody (lignosum), composed of a woody substance and numerous woody fibres; such as that of trees and shrubs.

2. Fleshy (carnosum), consisting of a fleshy substance more or less firm; as *Daucus Carota*, *Pastinaca Sativa*.

3. Hollow (cavum), that is always hollow in the middle, as *Fumaria Bulbosa*.

4. Partitioned (loculosum), an oblong root, internally furnished with separated cavities; as *Cicuta Virosa*.

5. Entire (integrum), never naturally internally hollow, and thus the opposite of the two last mentioned.

6. Cylindrical (cylindræum), that comes nearest to a cylindrical figure, and is thick; as *Dictamnus albus*.

7. Spindle-shaped (fusiforme) cylindrical above, and tapering to a point as it descends; as in *Daucus carota*, *Pastinaca sativa*.

8. Bitten (præmorsum), where the principal root seems as if it were bitten off, as *Scabiosa succisa*, *Plantago major*.

9. Worm-like (vermicularis), thick and almost cylindrical, but bent in different places; *Polygonum Bistorta*.

10. Turnip shaped (napiforme), bellying out above, but below ending in a long taper point, *Brassica Napa*.

11. Roundish (subrotundum, or globosum), that is almost spherical, as *Raphanus sativus*, *Bunium Bulbocastanum*.

12. Flat (placentiforme), a thick round root, which above and below is compressed, so that it almost resembles a plate; *Cyclamen*.

13. Jointed (geniculatum), divided into members, from which the root-fibres proceed; *Gratiola officinalis*.

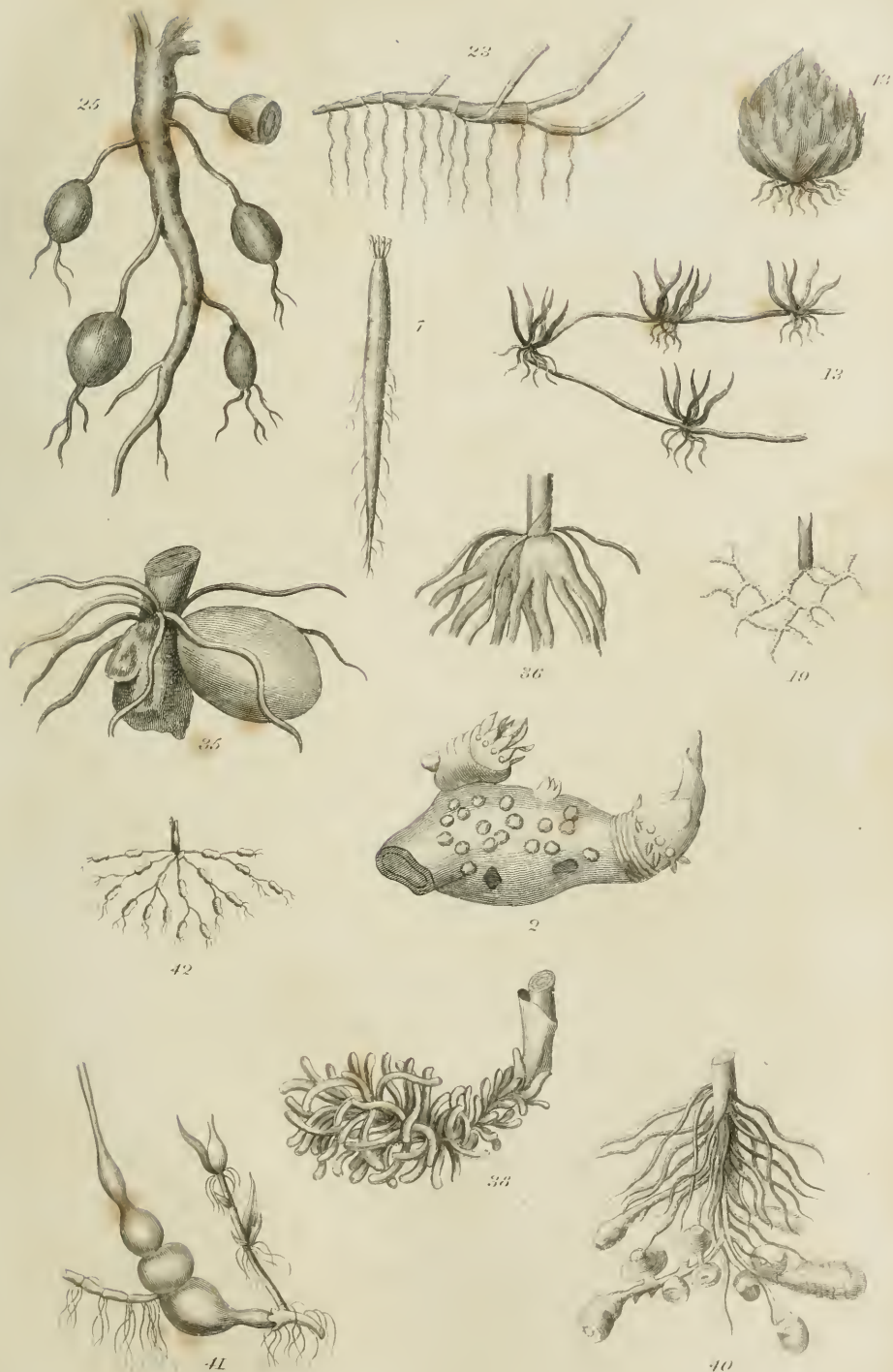
14. Scaly (squamosum), covered with more or fewer fleshy scales; *Lathræa squamaria*.

15. Toothed (dentatus), a fleshy branched root, having teeth-like prolongations; *Corallorhiza innata*.

16. Tufted (comosum), having as it were tufts of hair at its points, which are the fragments of the petioles, divided like fibres; *Aethusa Meum*.

17. Many headed (multiceps), divided at top

Roots.





into numerous branches, from which new shoots spring; as *Astragalus*, *Geranium macrorhizon*.

18. Simple (*simplex*), having no branches.

19. Branching (*ramosum*), dividing into branches, as all trees, shrubs, and many plants.

20. Perpendicular (*perpendicularis*), going straight down into the earth; *Capsella bursa pastoris*.

21. Horizontal (*horizontale*), running horizontally under ground into the earth, but obliquely, as *Aethusa meum*.

22. Oblique (*obliquum*), going neither perpendicularly nor horizontally into the earth, but obliquely; as *Aethusa meum*.

23. Creeping (*repens*), lying horizontally under the earth, and extending itself in that direction by means of side-branches; as *Rumex Acetosella*.

24. Ringed (*annulatum*), furnished on its upper surface with alternately raised and depressed bands.

25. Knobbed (*tuberculatum*), furnished on its upper surface, with protuberances; as *Aethusa meum*, *Bunium bulbocastanum*.

26. Scarred (*cicatrissatum*), which, upon the perishing of the stem, has depressions or chinks on its upper surface; as *Polypodium vulgare*.

27. Chaffy (*paleaceum*), covered with membranaceous scales; as many of the filices.

28. Even (*laeve*), marked on its surface neither with elevations nor depressions.

2. The Fibre is,

29. Thread-like (*filiformis*), consisting of a single fibre.

30. Fibrous (*fibrosa*), consisting of many fibrous roots; as *Poa annua*.

31. Hair-like (*capillaris*), consisting of numerous very fine fibres; as *Scirpus acicularis*.

32. Velvet-like (*velutina*), composed of very tender and hardly visible fibres; as in the *Musci frondosi*.

33. Cleft (*fissa*), very short, and at the point dividing into two or three points; *Peltidea canina*.

3. The Tuber, is

34. Knobbed (*granulatum*), the knobs formed like small grains of corn; as *Saxifraga granulata*.

35. Testiculated (*testiculatum*), when two, rarely three, longish depressed knobs hang from the point from which a shoot rises; as in *Orchis*.

36. Palmated (*palmatum*), when two, rarely three, longish depressed knobs, which are divided at the point, hang together; as in the last, *Orchis*.

37. Fingered (*digitatum*), when a single fleshy knob is compressed and divided at the point like fingers; *Dioscorea alternifolia*.

38. Bundled (*fasciculatum*), when many cylindrical or longish roots hang together from the point, so as to resemble a bundle; *Ranunculus Ficaria*, *Epipactis Nidus avis*.

39. Globulated (*conglobatum*), when several round knobs sit upon one another; as *Helianthus tuberosus*.

40. Depending (*pendulum*), when several knobs hang together from fibrous roots; as *Solanum tuberosum*, *Spiræa Filipendula*.

41. Articulated (*articulatum*), when one knob grows out of another, so that the whole seems to consist of connected members.

42. Necklace-like (*moniliforme*), when many knobs hang together by a fibrous root, in rows as if they were strung on; as *Pelargonium triste*.

4. The Bulb is,

43. Imbricated (*imbricatus, squamosus*), when the bulb consists of leaves lying over one another, like the tiles of a house; as *Lilium bulbiferum*.

44. Coated (*tunicatus*), when the bulb is composed of concentric layers; as in *Allium*.

45. Net-like, (*reticulatus*), when the bulb is entirely composed of reticulated membranes; as *Allium Victorialis*.

46. Half-net-like (*semireticulatus*), when the bulb consists of a firm mass, but the outer membrane is net-like; as *Gladiolus communis*.

47. Solid (*solidus*), when the bulk consists of a firm substance throughout; as *Colchicum autumnale*.

48. Nestling (*nidulans*), when small bulbs appear under the external membrane, and the bulb seems to be entirely composed of them; as in *Ornithogalum spathaceum*.

49. Aggregated (*compositus, aggregatus*), when several bulbs stand close together, having a connexion at the base.

50. Two-fold (*geminatus*), when two bulbs are connected by their base; as *Fritillaria pyrenaica*, *Erythronium dens canis*.

51. Doubled (*duplicatus*), when one bulb stands above another, and grows out of it; as *Allium sphaerocephalon*.

52. Supported (*suffultus*), when the body of the root stands at a distance, equalling it in size, and distinctly separated from it; as *Ixia punicea*, *erecta*.

53. Single (*solitarius*), when neither from the side nor from the base proceeds another bulb.

54. Central (*centralis*), when the shoot proceeds from the middle, as *Galanthus nivalis*.

55. Lateral (*lateralis*), when the shoot issues from the side; as in *Ixia virgata*.

Besides the above there are a few roots which being referable to none of the foregoing, are called nothous, or

Anomalous.

56. Divided (*divisa*), that branches out above stones or other bodies, but does not penetrate into the earth; as *Fucus digitatus*.

57. Byssus-like (*byssacea*), that is divided like wool, and has the appearance of a filamentary byssus; as many species of *Agaricus*.

58. Warty (*papillosa*), consisting of short wart-like small dots, by which the plant attaches itself to wood or stones, in *Lichen*.

59. Shield-like (*scutiformis*), when the base of the ascending stem spreads itself into a thin surface, by which the plant is attached to wood or stones; as *Usnea florida*, *Ceramium filum*.

60. Fading (*evanescens*), when the descending stem penetrates into wood and therein gradually disappears; as *Viscum album*.

188. The STEM is the prolongation of the plant above the soil, or above the part which serves for its support. It is subject to great

diversity of forms, and the number of terms used to distinguish their varieties are numerous.

The stock (cormus), is that part of the plant which serves for the support of the whole, and bears the inflorescence, the leaves, the frond, the flowers and fruit, from it are evolved in most cases all these parts. The following kinds have been distinguished: viz. the stem (caudex), the trunk (truncus), the stalk (caulis), the straw (culmus), the scape (scapus), the stipe (stipes), the shoot (sarculus), the sarment (sarmentum), and the sucker (stolo).

189. The stem (caudex), is a simple perennial shoot, with leaves at its extremity, and is peculiar only to the palms and arboreous filices, having no bark, but set round with the remains of the leaf-stalks. Of this there are the following kinds.

1. Ringed (annulatus), when the remains of the leaves at regular distances resemble annular elevations; as *Corypha rotundifolia*.

2. Scaly (squamosus), when the remains of the leaves surround the stem irregularly; as in *Phoenix dactylifera*, *Chamærops humilis*.

3. Tessellated (tessellatus), when the leaf or the base of the stipe does not remain behind, but leaves a scar, by which the stem puts on a tessellated appearance; as *Polypodium arboreum*.

4. Aculeated (aculeatus), when the remains of the leaf are set with prickles; as in *Cocos aculeatus*, *Polypodium asperum*.

5. Smooth (inermis), the opposite of the last, when the remains of the leaf leave no prickles, as *Phoenix dactylifera*, *Polypodium arboreum*.

190. The trunk (truncus), is peculiar to trees and shrubs, and is perennial. The principal stem in these plants has obtained the following denominations: its principal divisions are called branches (rami), and its subdivisions twigs (ramuli).

1. Tree-like (arboreus); this is simple, and forms at top a crowd or crown of branches (acumen); it is peculiar to trees.

2. Shrubby (fruticosus), divided below into a number of branches, like all shrubs.

191. The stalk (caulis), is herbaceous, seldom woody, and lasts but one or two years; hence it is proper only to herbaceous plants, however, the term is sometimes applied both to trees and shrubs. The divisions of this are also called branches (rami). The kinds are,

With respect to division.

1. Very simple (simplicissimus), that has no branches, nor is its flower-stalk divided, consequently it can have but one flower or spike, and no flowers in the axillæ of the branches.

2. Simple (simplex), having no branches, but whose flower-stalk may be divided.

3. Somewhat branched (subramosus), sometimes without branches, sometimes with one or two.

4. Branched (ramosus), which is always furnished with branches.

5. Much branched (ramosissimus), where all the branches are not only divided but subdivided.

6. Disappearing (deliquescent), branched, but so divided that the principal stem is no longer to be observed, but is lost in the ramification.

7. Entire (integer), which is branched, but where the principal stem can be traced to the point.

8. Verticillated (verticillatus), when a number of branches are formed at the extremity, from the centre of which the principal stem proceeds, so that the branches, at certain distances, surround the stem in a circular manner; as in *Pinus sylvestris*.

9. Proliferous (prolifer), where the stem is divided into a number of branches, and these again likewise divide, but the principal stem does not proceed from the centre of them; as *Ledum palustre*.

10. Dichotomous (dichotomus), when the stem, even to the smallest branches, divides itself into two; as *Viscum album*.

In respect of the branches.

11. Alternate branches (rami alterni), the branches are so placed that between two on the one side there rises but one on the opposite side.

12. Opposite branches (rami oppositi), when one branch stands on the opposite side to another, and the bases of each nearly meet together.

13. Distichous (distichus), when the branches, being opposite to each other, stand on the same plane.

14. Scattered (sparsus), when the branches stand without order on the stem.

15. Close (confertus), when the branches stand so thick and without order that no space remains between them.

16. Brachiate (brachiatus) when opposite branches stand at right angles to each other, or cross-ways.

17. Rod-like (virgatus), when the branches are very long, weak, and thin.

18. Panicle (paniculatus), when a stem at its point is divided into numerous leaves and flower-bearing branches; as, *Rumex acetosella*.

19. Fastigate (fastigiatus), when all the branches from bottom to top are of such different lengths that they are of equal height.

20. Compact (coarctatus), where the tips of the branches are bent inwards towards the stem.

21. Spreading (patens), when the branches stand nearly at right angles with the stem.

22. Diverging (divergens), where the branches form a right angle.

23. Divaricated (divaricatus), where the branches are so situated that they form an obtuse angle above, and an acute angle below.

24. Deflected (deflexus), the branches hang down forming an arch.

25. Reflected (reflexus), where the branches hang so much down that they almost run parallel with the stem.

26. Retroflected (retroflexus), where the branches are bent towards every side.

In respect of strength.

27. Stiff (rigidus), that will not bend without breaking.

28. Brittle (fragilis), that breaks with the smallest force.

29. Flexible (flexilis), that can be bent in any direction without breaking.

30. Tough (tenax) that can be bent without breaking, and can be with difficulty torn.

31. Lax (laxus), that is firm, but moves with the smallest breath of wind.

32. Parasitical (parasiticus), that fixes itself by its root on the root or wood of other plants; as Viscum, Monotropæ.

33. Erect (erectus), when the stem stands nearly perpendicular.

34. Straight (strictus), where the stem is perpendicular, and quite straight.

35. Weak (debilis), when the stem is too slender to maintain itself perfectly upright.

36. Bent upwards (adscendens), when the stem lies on the ground, but the extremity of it stands erect.

37. Bent downwards (declinatus), when the stem is so bent downwards to the earth that it forms an arch.

38. Supported (fulcratus), that from above sends roots down into the earth, which afterwards change into real stems; as in the Rhizophora.

39. Stooping (cernuus), when the point in an upright stem takes a horizontal direction.

40. Nodding (nutans), when the point is bent down towards the horizon.

41. Pendulous (pendulus), when a parasitical plant (No. 32) has its base turned towards the zenith, and its top towards the earth.

42. Procumbent (procumbens, prostratus, humifusus), when the stem lies flat on the ground.

43. Decumbent (decumbens), when the stem is upright below, but above is bent down towards the ground, so that the greater part of it is bent.

44. Creeping (repens), when the stem lies along, and sends out roots from below.

45. Sarmentose (sarmentosus), when the stem lies along, but sends out roots only at certain intervals.

46. Rooting (radicans), when the stem stands upright and climbs, everywhere sending forth small roots, by which it holds itself fast; as in the ivy. *Hedera Helix*.

47. Swimming (natans), lying on the surface of water; as *Polygonum amphibium*.

48. Sunk (demersum), that lies below the surface; as *Ceratophyllum demersum*, *Utricularia*.

49. Flexuose (flexuosus), where the upright stem bends itself in a zig-zag manner, so as to form a number of obtuse angles.

50. Climbing (scandens), a weak stem that fastens itself to some other body for support; as the passion-flower, *Passiflora carulea*.

51. Twining (volubilis), a weak stem that twines in a serpentine form round other plants; it is of two kinds.

a. Turning from the right (dextrorsum), when the stem twines from the right to the left round a supporting body; as in the bind-weed, *Convolvulus*.

b. Twining from the left (sinistrorsum), when the stem twines from the left to the right round a supporting body; as in the hop, *Humulus Lupulus*.

In respect of clothing.

52. Naked (nudus), having no leaves, scales, or the like.

53. Leafless (aphyllous), without leaves only.

54. Scaly (squamosus), covered with scales.

55. Rametaceous (ramentaceus), that is covered with dry membranous scales; as *Erica rametacea*.

56. Stipulate (stipulatus), furnished with stipulæ in the axillæ of the leaves; as *Vicia sativa*.

57. Exstipulate (exstipulatus), without stipulæ.

58. Leafy (foliosus), having leaves.

59. Perfoliate (perfoliatus), where the stem goes through a leaf; as *Bupleurum*.

60. Winged (alatus), when a leaf-like membrane runs along the stem.

61. Bulb-bearing (bulbifer), having bulbs or tubercles in the axillæ of the leaves; as *Lilium bulbiferum*, *Dentaria bulbifera*.

62. Prickly (aculeatus), when along the stem there are pointed protuberances coming off with the rind.

63. Spiny (spinosus), when there are pointed protuberances on the stem which do not come off with the rind.

64. Smooth (inermis), having neither prickles nor spines.

65. Barren (sterilis), bearing no flowers.

66. Fruitful (fructificans), bearing flowers or fruit.

In respect of figure.

67. Round (teres), that is, quite cylindrical.

68. Half-round (semiteres), that is, round on the one side and flat on the other.

69. Compressed (compressus), when the stem is flat on both sides.

70. Two-edged (anceps), when a compressed stem is sharp on both edges.

71. Angled (angulatus), when a stem has several angles, but the sides are grooved. Of this there are several kinds, viz.

a. Obtuse-angled (obtuse angulatus).

β. Acute-angled (acute angulatus).

γ. Three-angled (triangularis).

δ. Four-angled (quadrangularis, &c.)

ε. Many-angled (multangularis).

72. Three-sided, (triqueter), where there are three sharp corners, and the sides quite flat.

73. Three-cornered (trigonus), when there are three round or obtuse edges, but the sides appear flat. Of this too there are several kinds:

α. Four-cornered (tetragonus).

β. Five-cornered (pentagonus).

γ. Six-cornered (hexagonus).

δ. Many-cornered (polygonus).

74. Membranaceous (membranaceus), when the stem is compressed and thin like a leaf.

75. Knotted (nodosus), when the stem is divided by knobs.

76. Knotless (enodis), when it has neither knobs nor joints.

77. Articulated (articulatus), when the stem has regular knobs at the joints; as in *Cactus*.

78. Jointed (geniculatus), when a stem has regular knobs, not seated on the joints.

In respect of substance.

79. Woody (lignosus), that consists of firm wood.

80. Fibrous (fibrosus), that consists of woody fibres, that can be easily separated.

81. Herbaceous (herbaceus), that is weak and can be easily cut.

82. Fleshy (carnosus), that is nearly as juicy and soft as the flesh of an apple.

83. Firm (solidus), internally hard.

84. Empty (inanis), filled internally with a soft pith.

85. Hollow (fistulosus), without any pith within and quite hollow.

86. With separations (septatus), where either the pith or the hollow space is divided by thin partitions.

87. Cork-like (suberosus), when the outer rind is soft and spongy : as in the *ulmis suberosa*.

88. Rifted (rimosus), when there are in the rind thin clefts or chinks.

89. Scarred (cicatrizatus), having scars formed by the falling off of the leaves.

192. The straw (culmus) is proper only to the grasses. The kinds of it are nearly the same with those of the stem. The following, however, may be distinguished in addition.

1. Knotted (nodosus), furnished with enlarged joints, as most of the grasses.

2. Knotless (enodis), without any such enlarged joints. *Juncus*, *Carex*, *Scirpus*.

3. Simple (simplex), having no branches.

4. Branched (ramosus), furnished with branches.

5. Leafy (frondosus), furnished with irregular branches, and particularly with small leaves ; as *Restio*.

6. Sheathed (vaginatus), that is covered with a foliaceous vagina.

7. Naked (nudus), having neither a foliaceous vagina nor any leaves.

8. Erect (erectus), standing quite upright.

9. Geniculated (geniculatus or infractus), when the first and undermost joint lies prostrate, and the rest stand upright, so that by this flexure nearly a right angle is formed ; as in *Alopecurus geniculatus*.

10. Oblique (obliquus), having such a direction as to be intermediate between perpendicular and horizontal ; as *Poa annua*.

193. The scape (scapus) is an herbaceous stem that bears flowers, but not leaves, and proceeds from the descending, or intermediate, but never from the ascending stem.

It is proper to the lilies, and is sometimes found in other plants ; but in this last case it ought to bear more than one flower, for had it but one flower it would be called pedunculus radicalis. It is only when this single flower sits on a flower-stalk proceeding immediately from the ground that it is called scape.

194. The stipe (stipes). This term is applied only to Filices, Fungi, and Palms. The following are the kinds of it.

In Filices.

1. Chaffy (paleaceous), when it is covered with dry membranaceous scales.

2. Scaly (squamosus), when it is covered with foliaceous scales.

3. Naked (nudus), without any covering.

4. Prickly (aculeatus), having prickles.

5. Smooth (inermis), without prickles.

In Fungi.

6. Fleshy (carnosus), of a fleshy substance.

7. Leathery (coriaceus), consisting of a tough leather-like substance, as *boletus perennis*.

8. Firm (solidus), consisting within of a solid mass.

9. Hollow (fistulosus), forming throughout a hollow cylinder.

10. Pitted (lacunosus), having depressions on the outside ; as *Helvella sulcata*.

11. Scaly (squamosus), covered with firmly attached scales.

12. Squarrose (squamulosus), covered with scales which are turned back at the points.

13. Raised (peronatus), that from the bottom to the middle is laid thick over, with a woolly substance ending in a sort of meal.

14. Bellying (ventricosus), thicker in the middle than at either end.

15. Bulb-like (bulbosus), that is thick immediately above the root.

195. The shoot (surculus), is a term applied to the stem which bears the leaves of the mosses. Of this there are the following varieties.

1. Simple (simplex), having no branches ; as in the *Polytrichum commune*.

2. Branched (ramosus), dividing into branches ; as in *Mnium androgynum*.

3. With hanging branches (ramis deflexis), when the stem is branched but all the branches hang down ; as in *Sphagnum palustre*.

4. Irregular (vagus), branched, but the branches set on without order.

5. Intricate (intricatus), branched, and the numerous protuberant branches running into one another.

6. Tree-like (dendroides), standing erect, and at the point a crowd of thick branches like the top of a tree.

7. Pinnated (pinnatus) having at two opposite sides simple branches, of nearly the same length, at equal angles with the stalk.

8. Doubly pinnated (bipinnatus), having the habit of the last, only that its branches are again divided like those of the principal stem ; as *Hypnum parietinum*.

9. Trebly-pinnated (triplicatio pinnatus), like the last, but the secondary branches are also pinnated ; as *Hypnum recognitum*.

10. Proliferous (prolifer), when, in either of the two last kinds, there shoots forth a new stem out of the old ; as in *Hypnum proliferum*.

11. Erect (erectus), which rises perpendicularly ; as in *Polytrichum commune*.

12. Prostrate (procumbens), lying along.

13. Creeping (repens), the same with the last, but the branches constantly lengthening and putting forth small roots.

14. Floating (fluitans), swimming under water in a perpendicular direction, and attached to some fixed body ; as *Fontinalis antipyretica*.

196. The sarment or runner (sarmentum), is a filiform stem, springing from the root and shooting from the point, so sending forth roots and producing a new plant of the same kind ; as *Saxifraga sarmentosa*, *Fragaria*.

197. The sucker (stolo), is a foliaceous creeping stem, springing from the root, covered on its under surface with small roots, but at the point



Leaves.



bearing a number of leaves from which comes a new plant; as *Ajuga reptans*, *Hieracium pilosella*.

198. The *FOLIAGE* consists of the leaves, and their several parts, with the tendrils or other appendages connected therewith. The leaves are the organs in which the juices of the plant are elaborated, and rendered fit for being returned into the system, through the descending vessels of the bark, and the radiating vessels of the wood. They begin where the primordial scales at the base of the plant, if any, terminate; and they cease to be considered leaves as soon as the inflorescence (*inflorescentia*) commences; if situated among the inflorescence they are denominated *bractææ*.

199. The leaf is divided into three distinct parts: the *stipulæ*, the *petiole*, the *lamina*.

200. The *stipulæ* are minute scale-like appendages, seated at the base of the common or partial petiole; occasionally they are foliaceous; their position is liable to slight variation, being sometimes at the base of the petiole, sometimes adnate with its margin, and occasionally placed on the side of the stem opposite to the petiole. The *stipulæ* are to the leaf, what the *bractææ* are to the flowers.

201. The *petiole* is the foot-stalk of the leaf, and is subject to nearly the same variations in form as the stem; the terms applied to which are equally applicable to the petiole.

202. The *lamina* is a term used to express the leaf itself, considered without reference to the petiole or stipulæ.

Leaves are said to be simple when they consist of one lamina only; and to be compound, when they are formed by the union of more laminæ than one. The following are the terms employed in speaking of leaves.

A. SIMPLE LEAVES.

In respect of the apex.

A leaf is said to be:

1. Acute (*acutum*), when the leaf ends in a point.
2. Acuminated (*acuminatum*), when the point is lengthened out.
3. Pointed (*cuspidatum*), when the lengthened-out point ends in a small bristle.
4. Obtuse (*obtusum*), when the end of the leaf is blunt or round.
5. Mucronate (*mucronatum*), when there is a bristle-shaped aculeus, situated on the round end of a leaf; as in the *Amaranthus blitum*.
6. Bitten (*præmorsum*), when the leaf is as it were bitten off at the point, forming a curved line; as in the *Pavonia præmorsa*.
7. Truncated (*truncatum*), when the point of the leaf is cut across by a straight line; as in the *Liriodendron tulipifera*.
8. Wedge-shaped (*cuneiforme*), when a truncated leaf is pointed on both sides at the base.
9. Dedaleous (*dædaleum*), when the point has a large circuit, but is truncated and ragged.
10. Emarginated (*emarginatum*), when an obtuse pointed leaf has a part as it were taken out of the apex.
11. Retuse (*retusum*), when an obtuse leaf is somewhat emarginated, but in a small degree.

12. Cleft (*fissum*), when there is a cleft at the point, extending half way down the leaf. When there is but one cleft at the point, the leaf is called bifid (*folium bifidum*); if there are two clefts, it is called trifid (*trifidum*); if there are more clefts, the leaf is called quadrifidum, quinquefidum, &c. multifidum, with many clefts.

13. Fan-shaped (*flabelliforme*), when a truncated cuneiform leaf is at the point once or oftener cleft.

14. Tridentated (*tridentatum*), when the point is truncated, and has three indentations.

In respect of the base.

15. Heart-shaped (*cordatum*), when the base is divided into two round lobes, the anterior part of the leaf being ovate.

16. Kidney-shaped (*reniforme*), when the base is divided into two round separate lobes, and the anterior part of the leaf is round.

17. Moon-shaped (*lunatum*), when both lobes at the base have either a straight or somewhat arched line, and the anterior part of the leaf is round.

18. Unequal (*inæquale*), when one side of the leaf is more produced than the other.

19. Arrow-shaped (*sagittatum*), when the base is divided into two projected pointed lobes, and the anterior part of the leaf is likewise pointed.

20. Spear-shaped (*hastatum*), when the two pointed lobes of the base are bent outwards.

21. Ear-shaped (*auriculatum*), when there are at the base two small round lobes bent outwards. It is nearly the hastate leaf, only the lobes are smaller and round.

In respect of circumference.

22. Orbicular (*orbiculatum*), when the diameter of the leaf on all sides is equal.

23. Roundish (*subrotundum*), differs little from the foregoing; only that the diameter is longer, either from the base to the apex, or from side to side.

24. Ovate (*ovatum*), a leaf which is longer than it is broad; the base is round and broadest, the apex narrowest.

25. Oval or elliptical (*ovale* or *ellipticum*) a leaf whose length is greater than its breadth, but round both at base and apex.

26. Oblong (*oblongum*), when the breadth to the length is as one to three, or the breadth always least; but the apex and base vary, that is, they are sometimes obtuse, sometimes pointed.

27. Parabolic (*parabolicum*), a leaf is so called which is round at the base, then forms a small bend, and grows less towards the point.

28. Spatulate (*spatulatum*), when the fore part of a leaf is circular, growing smaller toward the base, as in the *cucubalus oites*.

29. Rhombic (*rhombeum*), when the sides of the leaf run out into an angle, so that the leaf represents a square.

30. Oblique (*subdimidiatum*), is that leaf which has one side broader than the other.

Of this leaf there are several varieties: as

a. Heart-shaped oblique (*sub-dimidiatio-cor-*

datum) a heart-shaped leaf, which is at the same time oblique, as in the *Begonia nitida*.

b. Trapeziform (trapeziforme), a rhombic leaf, with one side smaller than the other, &c.

31. Panduræform (panduræforme), when an oblong leaf has a deep curve on both sides.

32. Sword-shaped (ensiforme), an oblong leaf, growing gradually narrower towards the apex, which is pointed, the sides are flat, and have more or less of an arch-like form; as in the sword flag, *Iris*.

33. Lanceolate (lanceolatum), an oblong leaf which grows gradually narrower from the base to the point.

34. Linear (lineare), when both sides of a leaf run parallel to each other, so that it is equally broad at the base and the apex.

35. Capillary (capillare), when a leaf has scarcely any breadth, and is as fine as a thread or hair.

36. Awl-shaped (subulatum), a linear leaf, which is sharply pointed.

37. Needle-shaped (acerosum), a linear leaf that is rigid, and generally endures through the winter; as in the pine tribe, *Pinus*.

38. Triangular (triangulare), when the circumference represents a triangle, the apex of which makes the point of the leaf; as in the birch, *Betula alba*.

39. Quadrangular, quinquangular (quadrangulare, quinquangulare), when the circumference of the leaf has four or five angles; as in the *Menispermum Canadense*.

40. Intire (integrum, indivisum), which is not at all cleft or divided.

41. Lobed (lobatum), when a leaf is deeply divided, nearly half its length, into lobes. According to the number of lobes it is denominated bi-lobed (bi-lobum), as in *Bauhinia*; tri-lobed (tri-lobum), quinquelobed (quinquelobum), as in the hop, *Humulus lupulus*, &c.

42. Palmated (palmatum), when there are five or seven very long lobes, that is, when the segments are more than half way divided.

43. Divided (partitum), when in a roundish leaf the division extends to the base; *Ranunculus aquatilis*.

44. Two-ranked (dichotomum), the last leaf, whose linear sections are divided or subdivided into twos.

45. Torn (laciniatum), when an oblong leaf has several irregular clefts.

46. Sinuated (sinuatum), when on the sides of an oblong leaf there are round incisures, as in the oak, *Quercus robur*.

47. Pinnatifid (pinnatifidum), when there are regular incisures, to go almost to the middle rib.

48. Lyre-shaped (lyratum), nearly the foregoing leaf, whose outer segment is very large and round.

49. Runcinate (runcinatum), when the incisures of a pinnatifid leaf are pointed, and form a curve behind, as in the dandelion, *Leontodon taraxacum*.

50. Squarroso-lacinate (squarroso-laciniatum), when the leaf is cut almost into the middle rib, and the incisures run in every direction; as in the thistle, *Carduus lanceolatus*. N. the contour of the leaves from No. 41 to 43 is round. From 44 to 49 it is oblong.

In respect of the margin.

51. Quite entire (integerrimum), when the margin is without either notch or indentation. N. this, No. 50 and No. 40, are often confounded. An entire leaf is merely the opposite of the numbers from 40 and 41 to 49. It may often be either dentated or serrated. A quite entire leaf may, indeed, be formed like numbers from 41 to 47, but it can have no indentations or serratures, as in the following leaves:

52. Cartilaginous (cartilagineum), when the margin consists of a border of a harder substance than the disk.

53. Undulated (undulatum), when the margin is alternately bent in and out.

54. Crenated (crenatum), when the margin is set with small and round notches, having at the same time a perpendicular position.

55. Repand (repandum), when there are on the margin small sinuses, and between them segments of a small circle.

56. Toothed (dentatum), when the margin is set round with small pointed and distinctly separated teeth.

57. Duplicato-dentate (duplicato-dentatum), when each small tooth of the margin is again dentated; as in the elm, *Ulmus campestris*.

58. Dentato-crenate (dentato-crenatum), when each tooth is set with small and round denticuli.

59. Serrated (serratum), when the teeth on the margin are very sharp pointed, and stand so close that one seems to lie on the back of another.

60. Gnawed (erosum), when the margin is unequally sinuated, as if it had been gnawed; as in some species of sage, *Salvia*.

61. Spiny (spinoseum), when the margin is set with spines; as in the thistle, *Carduus*.

62. Fringed (ciliatum), when the margin is set round with strong hairs, of equal length, and at a considerable distance from one another.

In respect of their surface.

63. Aculeated (aculeatum), when the surface is covered with spines.

64. Hollow (concavum), when there is a hollow in the middle of the leaf.

65. Channelled (canaliculatum), when the middle rib of a long and narrow leaf is furrowed.

66. Wrinkled (rugosum), when the surface is raised between the veins of the leaf, and thus forms wrinkles; as in sage, *Salvia*.

67. Bullate (bullatum), when the parts raised between the veins on the surface appear like blisters.

68. Pitted (lacunosum), when the raised places between the veins are on the under surface, so that the upper surface appears pitted.

69. Curled (crispum), when the leaf is fuller on the margin than in the middle, so that it must lie in regular folds.

70. Folded (plicatum), when the leaf lies in regular straight folds from the base.

71. Veined (venosum), when the vessels of a leaf rise out of the middle rib. This is the case in most plants.

72. Netwise-veined (reticulato-venosum), when the veins which rise from the middle rib again subdivide into branches, that form a sort of net-work.

73. Ribbed (costatum), when the veins arise out of the middle, and proceed in a straight line towards the margin in considerable numbers, and close together; as in the *Calophyllum inophyllum*, *Canna*, *Musa*, &c.

74. Nerved (nervosum), when the vessels rising out of the petiolus run from the base to the apex.

75. Three-nerved (trinervium), when three nerves take their origin from the base. Thus we likewise say, quinquenervium, septemnervium, &c.

76. Triple-nerved (triplinervium), when out of the side of the middle rib, above the base, there arises a nerve running towards the point; as in *Laurus*, *Cinnamomum*, and *Camphora*.

77. Quintuple-nerved (quintuplinervium), when out of the middle rib, above the base, there arise on each side two nerves running towards the point.

78. Septuple-nerved (septuplinervium), when on each side of the middle rib, above the base, three nerves arise, and proceed to the apex.

79. Venose-nerved (venoso-nervosum), when, in a leaf having nerves, the vessels run into branches, or in a veined leaf; as in the Indian cress, *Tropæolum majus*.

80. Streaked (lineatum), when the whole leaf is full of smooth parallel vessels, that run from the base to the apex.

81. Nerveless (enervium), when no nerves rise from the base.

82. Veinless (avenium), where there are no veins.

83. Dotted (punctatum), when, instead of ribs and veins, there are dots or points; as in the *Vaccinium vitis idæa*.

84. Colored (coloratum), a leaf of some other color than green.

85. Cowled (cucullatum), when in a heart-shaped leaf the lobes are bent towards each other, so as to have the appearance of a cowl.

86. Convex (convexum), when the middle of the leaf is thicker than the rim, raised on the upper surface and hollowed on the under.

87. Keel-shaped (carinatum), when on the under surface of a linear-lanceolate, or oblong leaf, the place of the middle rib is formed like the keel of a ship.

88. Quadruply-keeled (quadricarinatum), when the middle rib, by means of a thin leaf above and below, projects, and the margin is incassated, so that a horizontal section has the appearance of a cross; as *Ixia cruciata*.

B. Compound Leaves.

89. Compound (compositum), when several leaves are supported by one foot-stalk. To this term belong Nos. 89, 92, 95, 96, 97. But when the leaf agrees with the above definition, although it should not come under any of the following kinds, it is still to be considered a compound leaf.

90. Fingered (digitatum) when the base of several leaves rests on the point of one foot-stalk; as in the horse-chestnut, *Aesculus Hippocastanum*.

91. Binate (binatum), when two leaves stand by their base on the top of one foot-stalk; but if the two foliola of a binate leaf bend back in a horizontal direction, it is called a conjugate leaf, *folium conjugatum*.

92. Bigeminate (bigeminatum, bigeminum), when a divided leaf-stalk at each point bears two leaves; as in some species of *Mimosa*.

93. Trigeminate (trigeminatum or tergeminum), when a divided leaf-stalk on each point bears two leaves, and on the principal stalk, where it divides, there is a leaf at each side; as in the *Mimosa tergemina*.

94. Ternate (ternatum), when three leaves are supported by one foot-stalk; as in the clover, *Trifolium pratense*. Strawberry, *fragaria vesca*.

95. Biternate (biternatum, or duplicato-ternatum), when a foot-stalk, which separates into three, at each point bears three leaves.

96. Triternate (triterdatum, or triplicato-ternatum), when a foot-stalk, which separates into three, is again divide at each point into three, and on each of these nine points bears three leaves.

97. Quadrinate (quadrinatum), when four leaves stand on the point of a leaf-stalk; as *Hedysarum tetraphyllum*.

98. Quinate (quinatum), when five leaves are supported by one foot-stalk: this, it is true, has some affinity with No. 89, but varies on account of the number five, as in the other there are generally more leaves.

99. Umbellate (umbellatum), when at the point of a leaf-stalk there stand a number of leaves, closely set, and forming the figure of a parasol; as *Aralia sciodaphyllum*, *Panax chrysophyllum*.

100. Pedate (pedatum, ramosum), when a leaf-stalk is divided, and in the middle, where it divides, there is a leaflet, at both ends there is likewise a leaflet, and on each side, between the one in the middle and that at the end, another or two, or even three leaves. Such a leaf therefore consists of five, seven, or nine leaflets, that are all inserted on one side; as in the *Helleborus viridis*, *fetidus*, and *niger*.

101. Pinnated (pinnatum), where on an undivided leaf-stalk there is a series of leaflets on each side, and on the same plane; of this there are the following kinds: *a*. Abruptly-pinnated (*pari pinnatum*, or *abrupte pinnatum*), when at the apex of a pinnated leaf there is no leaflet.

β. Pinnate with an odd one (*impari-pinnatum*, or *pinnatum cum impari*), when at the apex of a pinnated leaf there is a leaflet.

γ. Oppositely pinnate (*oppositè pinnatum*), when the leaflets on a pinnated leaf stand opposite to one another.

δ. Alternately pinnate (*alternatim pinnatum*), when the leaflets on a pinnated leaf stand alternately.

ε. Interruptedly pinnate (*interruptè pinnatum*), when in a pinnated leaf each pair of alternate leaflets is smaller.

ζ. Jointedly pinnate (*articulatè pinnatum*), when between each pair of opposite pinnæ, or leaflets, the stem is furnished with a jointed edge.

η. Decursively pinnate (*decursivè pinnatum*), when from each particular pinnula a foliaceous appendage runs down to the following one.

θ. Decreasingly pinnate (*pinnatum foliolis decrescentibus*), when the successive foliola on a pinnated leaf grow gradually smaller to the point; as in the *Vicia sepium*.

102. Conjugately pinnated (*conjugato-pin-*

natum), when a leaf-stalk divides, and each part makes a pinnated leaf.

103. Ternato-pinnate (ternato-pinnatum) when at the point of a principal leaf-stalk there stand three pinnated leaves; as *Hoffmanseggia*.

104. Digitato-pinnate (digitato-pinnatum), when several simply pinnated leaves, from four to five, stand on the point of one stalk; as in *Mimosa pudica*.

105. Doubly pinnate (bipinnatum, duplicato-pinnatum), when a leaf-stalk bears, on one plane on both sides, a number of leaf-stalks, of which each is a pinnated leaf.

106. Trebly pinnate (triplicato-pinnatum, or tripinnatum), when several doubly pinnated leaves are attached to the sides of a foot-stalk on one plane.

107. Doubly compound (decompositum) when a divided leaf-stalk connects several leaves; of this kind are Nos. 90, 91, 93, 98, 99, 100. But the term decompositum is only used when the division of the leaf-stalk of the pinnulæ is irregular.

108. Super-decompound (supra-decompositum), when a leaf-stalk, which is often divided, sustains several leaves; to this belong Nos. 94, 101. But then the term is used only when the divisions of the leaflets are either more numerous or not so regular.

C. In respect of the place.

109. Radical (radicale), when a leaf springs from the root, as in the violet, *Viola odorata*. *Sagittaria sagittifolia*.

110. Seminal (seminale), when a leaf grows out of the parts of the seed, as in the hemp; where, as soon as it springs, there appear two white bodies, which are the two halves of the seed that change into leaves.

111. Cauline (caulinum), which is attached to the principal stem. The root leaves and stem leaves of a plant are often very different.

112. Rameous (rameum), when a leaf rises from the branches.

113. Axillary (axillare or subalare), which stands at the origin of the branch.

114. Floral (florale), which stands close by the flower.

D. In respect of substance.

115. Membranaceous (membranaceum), when both membranes of a leaf lie close upon one another, without any pulpy substance between them; as in the leaves of most trees and plants.

116. Fleishy (carnosum), when between the membranes there is much soft and pulpy substance; as in houseleek, *Sempervivum tectorum*.

117. Hollow (tubulosum), when a somewhat fleshy and long leaf, as in the onion, *Allium Cepa*.

118. Bilocular (biloculare), when in a linear leaf, internally hollow, the cavity is divided by a longitudinal partition into two. *Lobelia dortmanna*.

119. Articulate (articulatum, or loculosum), when a cylindrical hollow leaf has its cavities divided by horizontal partitions; as *Juncus articulatus*.

120. Cylindrical (teres), when it is formed like a cylinder.

121. Compressed (compressum), when a thick leaf is flat on both sides.

122. Two-edged (anceps), when a compressed leaf is sharp on both edges.

123. Depressed (depressum), when the upper surface of a fleshy leaf is pressed down, or, as it were, hollowed out.

124. Flat (planum), when the upper surface of a thick leaf forms an even plane.

125. Gibbous (gibbosum, or gibbum), when both surfaces are convex.

126. Scimitar-shaped (acinaciforme); a two-edged thick leaf, on one side sharp and arched, on the other straight and broad.

127. Axe-shaped (dolabriforme), when a fleshy leaf is compressed, circular on the upper part, convex on the one side, sharp edged on the other, and cylindrical at the base.

128. Tongue-shaped (linguiforme), when a long compressed leaf ends in a round point.

129. Three-sided (triquetrum), when the leaf is bounded by three narrow sides, and is at the same time long.

130. Deltoid (deltoideum), when a thick leaf is bounded by three broad surfaces, and is at the same time short.

131. Four-cornered (tetragonum), when a leaf, long in proportion, is bounded by four narrow surfaces; as in the *Pinus nigra*.

132. Warty (verrucosum), when short fleshy leaves are truncated, and stand in thick heaps; as in some *Euphorbiae*.

133. Hook-shaped (uncinatum), when a fleshy leaf is flat above, compressed at the sides, and bent back at the point.

E. In respect of situation and position.

134. Opposite (folia opposita), when the bases of the leaves are next each other, on opposite sides of a stem.

135. Dissimilar (disparia), when of two leaves, placed opposite, the one is quite differently formed from the other; as some species of *Mcclustoma*.

136. Alternate (alterna), see No. 11.

137. Scattered (sparsa), when the leaves stand thick on the stem, without any order.

138. Crowded (conferta, or approximata), when the leaves stand so close together that the stem cannot be seen.

139. Remote (remota), when the leaves are separated on the stem by certain interstices.

140. Three-together (terna), when three leaves stand round the stem: there are sometimes four, five, six, seven, eight, &c., quaterna, quina, sena, septena, octona, &c.

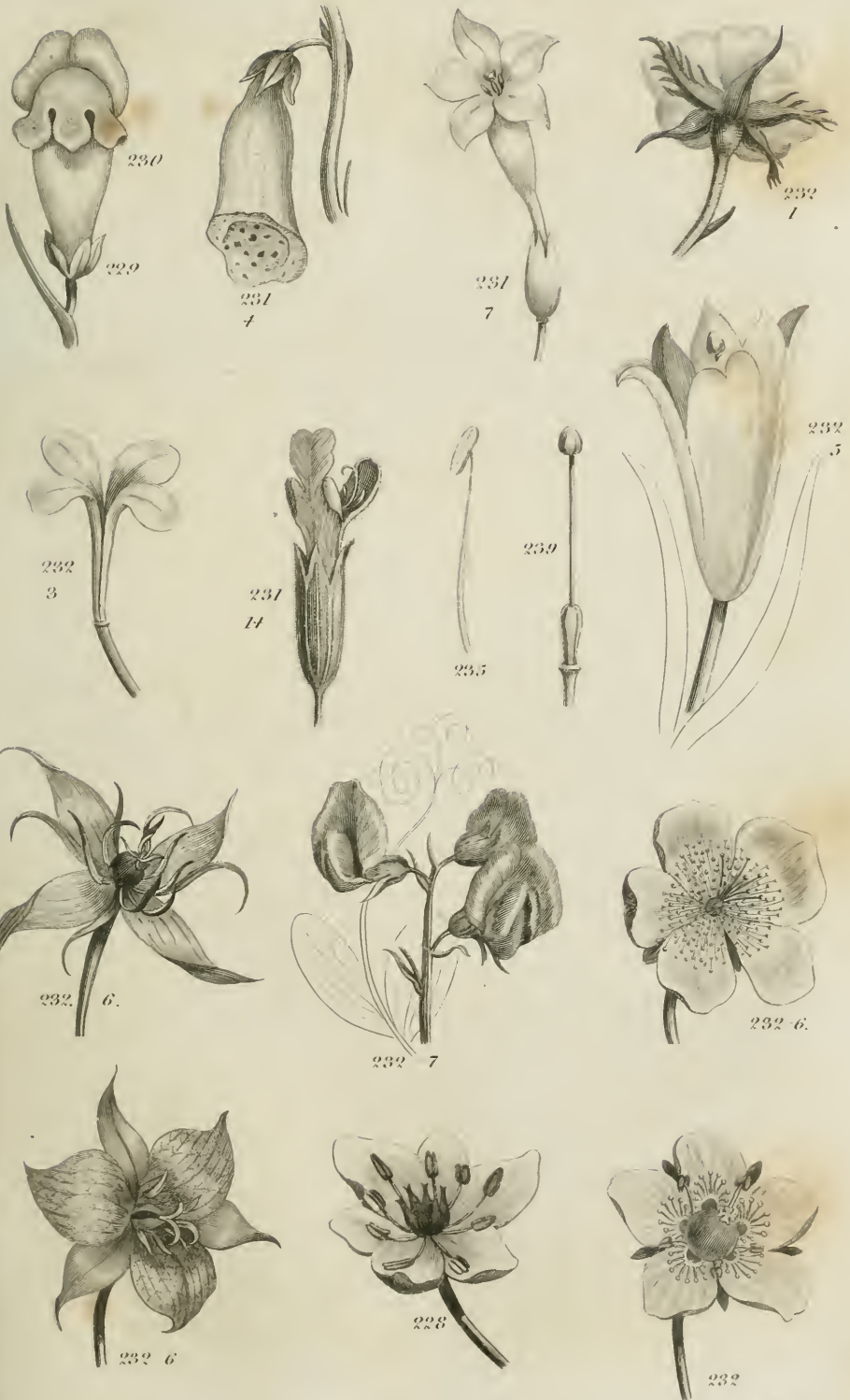
141. Star-like (stellata, or verticillata), when several leaves stand round the stem at certain distances; as in ladies-bedstraw, *Galium*, &c.

142. Tufted (fasciculata), when a number of leaves stand on one point; as in the larch, *Pinus larix*, *Celastrus buxifolius*.

143. Two-rowed (disticha), when leaves are so placed on the stem that they stand on one plane; as in the pitch fir, *Pinus picea*, *Lonicera symphoricarpos*.

144. Decussated (decussata), when the stem, in its whole length, is set round with four rows of leaves at each branch, and when one looks perpendicularly down upon it, the leaves seem to form a cross; as in *Veronica decussata*.

Flowers.







Inflorescence.



145. Imbricated (*imbricata*), when one leaf lies over another, as the tiles upon a roof. Of this there are the following kinds :

α. Bifariouly imbricated (*bifariam imbricata*), when the leaves are so laid upon one another that they form but two rows longitudinally on the stem.

β. Trifariam imbricata, three rows.

γ. Quadrifariam imbricata, &c. four rows, &c.

F. In respect of insertion.

146. Petiolated (*petiolatum*), when a leaf is furnished with a foot-stalk.

147. Palaceous (*palaceum*), when the foot-stalk is attached to the margin.

148. Peltated (*peltatum*), when the foot-stalk is inserted into the middle of the leaf.

149. Sessile (*sessile*), when the leaf is attached to the stem without any foot-stalk.

150. Loose (*solutum*, or *basi solutum*), a succulent cylindrical or subulate leaf, which seems to have no connexion with the stalk on which it rests, but seems to hang the more loosely ; as *Sedum album*.

151. Riding (*equitans*), a sword-shaped or linear leaf, that forms at its base a sharp and deep furrow, whose surfaces lie on one another, and embrace the stalk ; *Dracaena ensifolia*, *Sisyrinchium striatum*, &c.

152. Decurrent (*decurrens*), when the foliaceous substance of a sessile leaf runs down along the stem.

153. Embracing (*amplexicaule*), when a sessile leaf is heart-shaped at the base, and with both lobes embraces the stem.

154. Connate (*connatum*), when opposite and sessile leaves are joined at their base.

N. A perfoliated leaf (*folium perfoliatum*), is already described in No. 59.

F. In respect of direction.

155. Appressed (*adpressum*), when the leaf turns up, and lays its upper surface to the stem.

156. Erect (*erectum*, or *semiverticale*), when the leaf is directed upwards, and makes with the stem a very acute angle.

157. Vertical (*verticale*), which stands quite upright, and thus makes with the horizon a right angle.

158. Bent sideways (*adversum*), when the margin of a vertical leaf is turned towards the stem.

159. Spreading (*patens*), which goes off from the stem in an acute angle.

160. Bent in (*inflexum*, or *incurvum*), when an upright leaf is bent in at its point towards the stem.

161. Oblique (*obliquum*), when the base of the leaf stands upwards, and the point is turned towards the ground.

162. Horizontal (*horizontale*), when the upper surface of the leaf makes with the stem a right angle.

163. Bent down (*reclinatum*, or *reflexum*), when the leaf stands with its point bent towards the earth

164. Bent back (*revolutum*), when the leaf is bent outwards, and its point from the stem.

165. Hanging down (*dependens*), when the base is turned to the zenith, and the point towards the ground.

166. Rooting (*radicans*), when the leaf strikes root.

167. Swimming (*natans*), when the leaf swims on the surface of water ; as in *Nymphaea alba*.

168. Immersed (*demersum*), when the leaves are found under water.

169. Emerging (*emersum*), when the leaf of an aquatic plant raises itself out of the water.

203. Besides the petiole, the stipulae, and the lamina, which have now been described, there are two appendages which properly belong to the foliage, and still remain to be noticed ; these are the ramentum, and the cirrus, or tendril.

204. The rament (*ramentum*), is a small, often bristle-shaped, leaflet, that is oblong, thin, and more or less of a brown color ; sometimes placed, like the stipulae, in the angles of the petiole ; but sometimes, likewise, without any order on the stem. It appears on all trees when their buds open, and falls soon after. On the oak it stands like the stipulae, on the Scotch fir, *Pinus sylvestris*, it is soon dispersed.

When the stem of a plant is covered with fine dry scales, that have the appearance of the Ramentum, it is properly called a ramentaceous stem, *caulis ramentaceus*.

205. The tendril (*cirrus*), is a filiform body, which serves for attaching plants to some support. It is always an alteration of some other part of the plant ; for instance, in the vine, of a leaf, and in the *Artabotrys*, of a part of the inflorescence. Climbing plants are furnished with tendrils. They are in general spiral. The species are as follows :

1. Axillary (*axillaris*), when rising from the axillae of the leaves.

2. Foliar (*foliaris*), when springing from the points of the leaves.

3. Petiolar (*petiolaris*), when standing on the point of the common foot-stalk of a compound leaf.

4. Peduncular (*peduncularis*), when rising from the foot-stalk of a flower.

5. Simple (*simplex*), when not divided.

6. Convolute (*convolutus*), when winding regularly round a prop.

7. Revolute (*revolutus*), when winding irregularly, sometimes to this side, sometimes to that.

206. To the inflorescence are to be referred all those parts which are placed above the articulation, which unites the flower with the plant ; strictly speaking, the term denotes the mode in which the flowers are arranged upon their stalk or rachis. We will first describe the different manners in which this is effected, and then explain the nature and modifications of the accessory leaves.

207. The inflorescence in many plants is an important character, and the following kinds have been described, viz. : The whirl (*verticillus*), the head (*capitulum*), the ear (*spicula*), the spike (*spica*), the raceme (*racemus*), the fascicle (*fasciculus*), the umbel (*umbella*), the cyme (*cyma*), the corymb (*corymbus*), the panicle (*panicula*), the thyrs (*thyrsus*), the spadix (*spadix*), and finally, the catkin (*amentum*).

208. A whirl (*verticillus*), consists of several flowers that encircle the stem, and stand un-

covered at intervals upon it. Of this there are the following kinds :

1. Sitting (*sessilis*), when all the flowers sit close to the stem, without foot-stalk, as in the field mint. *Mentha arvensis*.

2. With a foot-stalk (*pedunculatus*), when the flowers are furnished with short foot-stalks.

3. Headed (*capitatus*), when the flowers stand so thick that they take the figure of a half sphere as ; *Phlomis tuberosa*.

4. Half (*dimidiatus*), when the flowers surround only the half of the stalk ; as in balm, *Melissa officinalis*.

5. Close (*confertus*), when one whirl stands close above another.

6. Distant (*distans*), when the whirls stand at a distance one from another.

7. Leafy (*foliosus*), when there are leaves at the base of the whirl.

8. Leafless (*aphyllus*), when there are no leaves above the whirl.

9. Bracteate (*bracteatus*), when there are floral leaves, or bractæ, at the whirl.

10. Ebracteate (*ebracteatus*), when there are no bractæ at the whirl.

11. Naked (*nudus*), when no leaves or bractæ stand near the whirl.

12. Six, eight, ten, or many flowered (*sex*, *octo*, *decem*, or *multiflorus*), when the whirl consists of many flowers.

209. The head (*capitulum*), is a number of flowers standing thick upon one stalk, so as to form a round head. The flowers have either foot-stalks, or sit close. The following are varieties of this :

1. Spherical (*globosum*, or *sphæricum*), when the flowers have a perfectly round form ; as in the *Gomphrena globosa*.

2. Roundish (*subglobosum*), when the head of flowers is nearly round, but where the length exceeds the breadth ; as in clover ; *Gomphrena globosa*.

3. Conical (*conicum*), when the head is long, drawing towards a point ; as in *Trifolium montanum*.

4. Hemispherical (*dimidiatum*, or *hemisphericum*), when the head is round on one side and flat on the other.

5. Leafy (*foliosum*), when the head is surrounded with leaves.

6. Tufted (*comosum*), having leaves at the point ; as *Bromelia ananas*.

7. Naked (*nudum*), when it is devoid of leaves.

8. Standing on the point (*terminale*), when it stands on the top of the stem.

9. Axillary (*axillare*), standing on the angles of the leaves, that is, where the base of the leaf, or of the leaf-stalk, is placed.

10. Alar (*alaris*), sitting on the axillæ of the branches.

210. The ear (*spicula* or *locusta*), is either named from the flowers of the grasses enclosed in the glume ; or we understand by it also, the flowers of the gramineous plants, such as *cyperus*, *scirpus sylvaticus*, &c., which stand closely pressed together on a filiform flower-stalk. It is denominated according to the number of the flowers and their figures.—The following are the kinds of it :—

1. One flowered (*uniflora*), that contains but one flower ; as *Agrostis*.

2. Two flowered (*biflora*), having two flowers ; as in *Aira*.

3. Three-flowered (*triflora*), &c.

4. Many-flowered (*multiflora*), that contains many flowers.

5. Round (*teres*), when the flowers in the spicula are so placed that their horizontal section is round ; as *Glyceria fluitans*, &c.

6. Two ranked (*disticha*), when the flowers in the spicula are placed in two opposite rows on the same level ; as in *Cyperus*.

7. Ovate (*ovata*), when the outline of the spicula resembles the figure of an egg ; as *Bromus secalinus*.

8. Oblong (*oblonga*), when the outline of the spicula exhibits an ellipsis more or less perfect.

9. Linear (*linearis*), when the spicula is long and small, but of equal breadth throughout.

211. The spike (*spica*) is that sort of inflorescence when many flowers, without any foot-stalk, sit on a simple filiform principal flower-stalk. If there be a foot-stalk, it must be much shorter than the flower. The kinds are,

1. Glomerate (*glomerata*), when the spike consists of a spherical selection of flowers.

2. Interrupted (*interrupta*), when the flowers upon the spike are interrupted by naked interstices.

3. Verticillated (*verticillata*), when the flowers, leaving naked interstices on the spike, appear on that account to be placed in whirls.

4. Imbricated (*imbricata*), when the flowers stand so thick together that one lies upon another.

5. Distichous (*disticha*), when the flowers are arranged on the spike in two rows.

6. One-rowed (*secunda*), when the flowers are all arranged on one side of the spike, so that the other side is naked.

7. Cylindrical (*cylindrica*), when the spike is equally covered with flowers both above and below.

8. Linear (*linearis*), that is very slender, and of equal thickness.

9. Ovate (*ovata*), that is thick above, more slender below, and appears of an oval form.

10. Ventricose (*ventricosa*), thick in the middle, and slender at both extremities.

11. Leafy (*foliosa*), having leaves between the flowers.

12. Comose (*comosa*), having leaves at the apex.

13. Fringed (*ciliata*), having hairs between the flowers.

14. Simple (*simplex*), without branches.

15. Branched or compound (*ramosa*, or *composita*), when several spikes stand on one branched or divided stalk.

16. Conjugate (*conjugata*), when two spikes standing on one stalk unite at the base.

17. Bundled (*fasciculata*), when several spikes standing on one foot-stalk unite at the base.

18. Terminal (*terminalis*), standing on the apex of the stalk or branch.

19. Axillary (*axillaris*), standing in the angles at the origin of the leaves.

20. Lateral (*lateralis*), standing on the wood

of the former year, that is, on the place now destitute of leaves.

212. The Raceme (racemus) is that sort of inflorescence to which several pedunculated flowers are longitudinally attached, nearly of equal length, or at least where the lowest flower-stalks are little longer than the upper. Here follow the different kinds of Raceme;—

1. One-sided (unilateralis), when only one side of the stem is set with flowers.

2. One-rowed (secundus) when the flower-stalks are situated round the principal stem, but the flowers themselves are directed only to one side.

3. Limber (laxus), when the raceme is very pliant and flexible.

4. Stiff (strictus) when the raceme does not bend.

5. Simple (simplex), when it is unbranched.

6. Compound (compositus), when several single racemes unite on one stem.

7. Conjugate (conjugatus), when two racemes, standing on one stem, unite at the base.

8. Naked (nudus), without leaves or bractæ.

9. Foliate (foliatus), set with leaves or bractæ.

10. Bracteate (bracteatus), when there are bractæ at the flowers.

11. Ebracteate (ebracteatus) having no bractæ.

12. Erect (erectus), standing upright.

13. Straight (rectus), straight without bending.

14. Cernuous (cernuus), when the apex of the raceme is bent downwards.

15. Nodding (nutans), when the half of the raceme is bent downwards.

16. Hanging (pendulus), when the raceme hangs down perpendicularly.

213. The Fascicle or bundle (fasciculus) is a number of simple foot-stalks, of equal height, which arise at the point of the stem, not from one point, but from several. As an example of the fasciculus may be quoted *Dianthus carthusianorum*.

214. The umbel (umbella) consists of a number of flower-stalks, of equal length, that rise from the point. In an umbel the flower-stalks are called rays (radii). There are the following varieties of the umbel.

1. Simple (simplex), when the rays bear but one flower.

2. Compound (composita), when each ray of the umbel supports a simple umbel. The rays which support the simple umbels are called the universal or general umbel, umbella universalis. The simple umbels are called the particular or partial umbels, umbella partialis or umbellula.

3. Sitting (sessilis), when the umbel has no stalk.

4. Pedunculated (pedunculata), when it is furnished with a stalk.

5. Close (conferta), when the rays of the umbel stand so near one to another that the whole umbel becomes very thick and close.

6. Distant (rara), when the rays stand wide.

7. Poor (depauperata), when the umbel has but few flowers.

8. Convex (convexa), when the middle rays are high but stand thick, so that the whole form a globular figure.

9. Flat (plana), when the rays being of equal length, the flowers form a flat surface.

215. The cyme (cyma) is that species of inflorescence where the whole at first view has the appearance of a compound umbel, only the principal flower-stalk and those which support the particular florets do not rise from the same point. The flower-stalks rise close above one another and are divided into irregular branches. Examples of the cyme are found in *Sambucus nigra*, and *Viburnum opulus*.

216. The corymb (corymbus) is properly speaking an erect racemus, the lower flower-stalks of which are either branched or simple, but always so much produced as to be of equal height with the uppermost.

217. The panicle (panicula) consists of a number of simple flowers that stand on unequally divided branches, and on a long peduncle. The kinds are,

1. Simple (simplex), that has only undivided side branches.

2. Branched (ramosa), when the branches are again branched.

3. Much branched (ramosissima), when the side branches are much divided.

4. Disappearing (deliquescent), when the foot-stalk so loses in branching that it cannot be traced to the end.

5. Spreading (patentissima), when the branches stand wide from one another, and spread out on all sides.

6. Crowded (coarctata), when the branches stand very close together.

7. One-rowed (secunda), when the branches incline all to one side.

218. The Thyrsus (thyrsus) is a condensed panicle, whose branches are so thick that the whole has an oval form; as in the flower of the privet, *Ligustrum vulgare*, *Tussilago petasites*.

219. The Spadix is peculiar to the palms, and some plants allied to the genus *Arum*. All flower-stalks that are contained in a vagina, are called Spadix. This organ is sometimes found like a spike, racemus, or panicle, and from these it takes its name.

The terms appropriated to it are the following:

1. Spiked (spicatus), having the appearance of a spike.

2. Raceme-like (racemosus), forming a raceme.

3. Paniculated (paniculata), having the form of a panicle.

220. The Catkin (anentum, or julus,) is a long and always simple stem, which is thickly covered with scales, under which are the flowers, or their essential parts.

Examples of this are found in the willows (salices), hazle (*Corylus avellana*), hornbeam (carpinus), &c.

1. Cylindrical (cylindricum), which is equally thick above or below.

2. Attenuated (attenuatum), which grows thinner and thinner to the point.

3. Slender (gracile), which is long but has few scales, and also is slender in proportion to its length.

4. Ovate (ovatum) which is thick below and around, but grows gradually more slender to the point.

221. The accessory leaves of the inflorescence

are the bractæ, of which the spatha, and the involucrem are varieties.

222. The bractæ are small leaves, placed above the articulation of the inflorescence, near or between the flowers, and in general are of a different shape and color from the other leaves. They are subject to many variations of figure, duration, &c.; the terms to express which are the same as are applied to leaves under similar circumstances.

223. The spatha and the involucrem differ from bractæ in being situated immediately below the articulation of the inflorescence with the plant. They are both subject to several variations of form, which are designated by particular names.

224. *The spatha is,*

1. Univalve (univalvis) when it consists but of one leaf; as in *Arum maculatum*.

2. Bivalve (bivalvis) when two leaves stand opposite each other, as in *Stratiotes*.

3. Halved (dimidiata) when the flowers are covered on one side only.

4. Permanent (persistsens) when it remains unchanged till the fruit appears.

225. The involucrem consists of several leaves, surrounding one or several flowers. It is chiefly known in umbelliferous plants, and in compound flowers. In the former the terms employed do not differ from those used for other parts of a plant; in the latter it is altogether of another kind, and requires a particular description.

226. The common calyx, common perianthium, or anthodium, as it is sometimes called, is an involucrem, which contains a great number of flowers, in such a manner as that these flowers appear to form but one; as in the dandelion (*Leontodon taraxacum*), blue bottle (*Centaurea cyanus*), sun flower (*Helianthus annuus*), &c. The kinds are,

1. One leaved (monophyllum), that consists but of one leaf, united at the base, but divided at top.

2. Many leaved (polyphyllum), that is compounded of several leaves.

3. Simple (simplex), when the flowers are surrounded with a single row of leaves.

4. Equal (æquale), when in a simple perianth the leaves are of equal length.

5. Scaly or imbricated (squamosum or imbricatum), when the common perianth consists of closely imbricated foliola.

6. Squamose (squamosum), when the foliola are bent back at the point.

7. Scariosse (scariosum), when the foliola are hard and dry; this is found in *Centaurea glastifolia*.

8. Fringed (ciliatum), when the margins of the foliola are beset with short bristles of equal length.

9. Muricated (muricatum), when the margins of the foliola are set with short stiff prickles.

10. Thorny (spinosum), when each leaflet is provided with a thorn: these are either simple thorns (spinæ simplices), or branched (ramosæ).

11. Turbinate (turbinatum), when the perianth has quite the figure of a top.

12. Spherical (globosum), when it has the form of a perfect sphere.

13. Hemispherical (hemisphæricum), when it is round below and flat above.

14. Cylindrical (cylindricum), when the perianth is round and long, as thick above as below.

15. Flat (planum), when the foliola of the perianth are spread out quite flat.

16. Doubled or calyculated (auctum or calyculatum), when at the base of the common perianth there is another row of foliola, that appear to form another involucrem; as in dandelion, *Leontodon Taraxacum*.

227. The Flower is the part immediately terminating the twigs or branches of the inflorescence, and containing the commencement of the fruit. Its parts are the *Calyx*, the *Corolla*, the *Stamens*, and the *Pistillum*; besides which must be noticed the *Discus*.

228. When the calyx and corolla are so con-founded as not to be capable of being distinguished they are called perianthium; as in *Butomus*.

229. The calyx immediately encloses the flower. It is,

1. Abiding (persistsens), remaining after the flower falls off; as in the henbane, *Hyoscyamus niger*.

2. Deciduous (deciduus), that falls off at the same time with the flower; as in the lime tree, *Tilia Europæa*.

3. Withering (marcescens), that withers after the flower, but still remains for some time, and at last drops off; as in the apricot, *Prunus Armeniaca*.

4. Caducous (caducus), that falls off before the flower; as in the poppy, *Papaver somniferum*.

5. Simple (simplex).

6. Double (duplex), when a double calyx encloses the flower; as the strawberry, *Fragaria vesca*; mallow, *Malva rotundifolia*.

7. One leaved (monophyllus), when the calyx consists of one leaf, that is, it may be divided into equal or unequal laciniae, but all of them are connected at the base.

8. Two, three, four, five-leaved, di-tu-ri-tetra-penta-&c. phyllus, many leaved (polyphyllus), when it consists of two or more foliola.

9. Dentated (dentatus), when it has at the margin short segments or indentations, but which are not deeper at most than the fourth part of the whole calyx. According to the number of these segments the calyx is, bi, tri, quadri, quinque, &c. or multidentatus, with two, three, four, five, or many segments.

10. Cleft (fissus), when the calyx is divided into laciniae, but which reach only to the middle. It is often bi-tri-quadri-multifidus.

11. Parted (partitus), when it is divided down to the base. These divisions are also named according to their number, as bi-tri-quadri-&c. multipartitus.

12. Labiated or bilabiated (labiatus or bilabiatus), when it is deeply divided into two laciniae, both of which are dentated; as in garden sage, *Salvia officinalis*.

13. Entire (integer), when a monophyllus ca-

lyx is short, round at the base, and entire on the margin.

14. Urceolated (*urceolatus*), when a monophyllous calyx is short, round at the base, and entire on the margin.

15. Shut (*clausus*), when a polyphyllous, or divided calyx, applies itself closely to the corolla.

16. Tubular (*tubulosus*), when a divided, cleft, or indented calyx, at its origin is cylindrical, and forms a tube.

17. Spreading (*patens*), when, in a monophyllous or polyphyllous calyx, the foliola or laciniae, stand quite open.

18. Reflected (*reflexus*), when either the segments, or laciniae in monophyllous calyxes, or the foliola in polyphyllous, are bent back.

19. Inflated (*inflatus*), when the calyx is hollow, and bellies out.

20. Abbreviated (*abbreviatus*), when the calyx is much shorter than the corolla.

21. Colored (*coloratus*), when the calyx is of another color than green.

230. The corolla is the envelope, or small leaves enclosed by the calyx, surrounding the interior parts of the flower, of a more delicate structure than the calyx, and of another color than green. It consists either of one piece or of several; the first called a monopetalous corolla (*corolla monopetala*), the last polypetalous (*corolla polypetala*). The pieces it consists of are called petals (*petala*).

231. The monopetalous corolla is that which consists but of one piece, which, however, may be divided into segments, but which must always be entire at the base. The following are varieties of this corolla:—

1. Tubular (*tubulosa*), that consists of a single piece, hollow and of equal thickness. The small corolla or floret, which is found included in a common perianthium, is also called tubular, although it sometimes departs from this form.

2. Club-shaped (*clavata*), which forms a tube, growing gradually wider upwards, and narrower at the aperture.

3. Spherical (*globosa*), which is narrow above and below, and wide in the middle.

4. Bell-shaped (*campanulata*), that grows gradually wider to the mouth, so that it has nearly the appearance of a bell.

5. Cup-shaped (*cyathiformis*), when a cylindrical tube grows gradually wider from below upwards, but the margin is upright, and not bent back or contracted.

6. Urceolated (*urceolata*), when a short cylindrical tube extends itself into a wide surface, the margin of which is erect.

7. Funnel-shaped (*infundibuliformis*), when the tube of the corolla grows gradually wide, above that is obversely conical, but the rim pretty flat and turned outwards.

8. Salver-shaped (*hypocrateriformis*), when the tube of the corolla is perfectly cylindrical, but very long, and the rim forms a broad expansion; as in *Phlox*.

9. Wheel-shaped (*rotata*), when a cylindrical tube is very short, nearly shorter than the calyx, sometimes hardly perceptible, and its margin is quite flat. It is almost the same with the fore-

going, only the tube is very short; as in shepherd's club, *Verbascum*.

10. Tongue-shaped (*ligulata*), when the tube is not long, suddenly ceases, and ends in an oblong expansion; as in the *Aristolochia clematitis*, and in some flowers that are contained in a common perianthium.

11. Difform (*difformis*), when the tube gradually becomes wider above, and is divided into unequal lobes; as in some corollas that are included in a common perianthium, e. g. the blue bottle, *Centaurea cyanus*.

12. Ringent (*ringens*), when the margin of a tubular corolla is divided into two parts, of which the upper part is arched, the under oblong, and has some resemblance to the open mouth of an animal; as in sage, *Salvia officinalis*.

13. Masked (*personata*), when both segments of the ringent flower are closely pressed together; as in snap-dragon, *Antirrhinum majus*.

14. Bilabiate (*bilabiata*), when the corolla has two segments or lips, which lie over against each other, and which are themselves often laciniated or cleft.

15. One-lipped (*unilabiata*), when in a ringent, personate, &c. corolla, the upper or under lip is wanting, as in *Teucrium*.

232. The kinds of the many-petalled corolla (*corolla polypetala*) are,

1. Rose-like (*rosacea*), when petals which are pretty round, and at their base have no unguis, form a corolla.

2. Mallow-like (*malvacea*), when five petals, which at the base are considerably attenuated, so unite below that they appear to be monopetalous.

3. Cross-like (*cruciata*), when four petals, which are very much produced at their base, stand opposite to one another; as in *Sinapis alba*, *Brassica oleracea*, *viridis*, &c.

4. Pink (*caryophyllacea*), when five petals at their base are much elongated, and stand in a monophyllous calyx; as in *Dianthus caryophyllus*, &c.

5. Lily-like (*liliacea*), when there are six petals, but no calyx. In some there are only three, in others they form a tube at the bottom. This makes the idea somewhat indefinite, but it ought to be remarked that this kind of corolla never has a calyx, and that it is only proper to the lilies.

6. Two, three, four, five, many petalled (*di-tri-tetra-penta-&c. polypetala*), thus the corolla is denominated, according to the number of the petals.

7. Papilionaceous (*papilionacea*), when four petals differing in figure stand together; to these petals the following names have been given (for instances, examine the flowers of the common pea, *pisum sativum*, or vetch, *vicia sativa*):

a. The standard (*vexillum*) is the uppermost petal, which is commonly the largest, and is somewhat concave.

b. The two wings (*alæ*) are the two petals, which stand under the vexillum, and opposite to each other on each side.

c. The keel (*carina*) is the undermost petal; it is hollow, and stands under the vexillum, and opposite to it, and contains the ovary, with the stamina and pistillum.

8. Orchideous (orchidea), is a corolla, composed of five petals, of which the undermost is long, and sometimes cleft; the other four are arched, and bent towards one another.

9. Irregular (irregularis), consisting of four or more petals, which are of different lengths and inclination, so that they do not come under the description of the other kinds.

233. A single division of the corolla, as we have observed, is called a petal (petalum); when this is plain the upper part is called lamina, the under part unguis.

234. The particular parts of the corolla have besides appropriate names. The following are those of the monopetalous corolla:—

1. The tube (tubus) of a monopetalous corolla is the under part, which is hollow, and in general of equal thickness. All flowers with this kind of corolla have a tube, except the bell-shaped, and sometimes the wheel-shaped.

2. The border (limbus), is the opening of the corolla, especially when it is bent back. The limbus is often dentated or deeply divided, and the divisions are called

3. Segments or lobes (laciniae or lobi), and they are denominated according to their figure, number, and situation.

4. The helmet (galea) is the upper arched lacinia of a ringent or masked corolla, which is further denominated according to its situation, figure, and segments or laciniae.

5. The gape (rictus) is, in ringent flowers, the space between the two extremities of the helmet and the under lip.

6. The throat (faux), in a monopetalous and ringent corolla, is the opening of the tube.

7. The palate (palatum), in a personate corolla, is the arch of the under lip, which is so elevated as to close the faux.

8. The labellum is the under lip of a ringent and personate corolla.

9. The lips (labia), in the bilabiate and unilabiate flowers, are two divisions, the one called the upper lip (labium superius), and the other the under lip (labium inferius). The galea and labellum are likewise by some botanists called lips.

235. The stamens are the male organs of the plant, and are seated between the corolla and the ovarium. Their parts are three; the filament, the anther, and the pollen.

236. The filament (filamentum) is a longish body, that is destined for the support and elevation of the anther. In its figure it is very various.

1. Capillary (capillare), that is all of equal thickness, and as fine as a hair.

2. Filiform (filiforme), like the former, only thicker.

3. Awl-shaped (subulatum), which is thicker below than above.

4. Dilated (dilatatum), that is so compressed on the sides as to appear broad and leaf-like.

5. Heart-shaped (cordatum), the same with the foregoing, but with a margin above and pointed below; as in Mahernia.

6. Wedge-shaped (cuneiforme), a dilated filament, that is pointed below, but cleft above; as in *Lotus tetragonolobus*.

7. Loose (liberum), that is not attached to any other filament.

8. Connate (connatum), when several grow together, forming a cylinder; as in the mallow, *Malva*.

9. Bifid (bifidum), when a filament is divided into two parts.

10. Multifid, or branched (multifidum or ramosum), when it is divided into many branches; as in *Carolinea princeps*.

11. Jointed (articulatum), when the filament has a moveable joint; as in sage, *Salvia officinalis*.

12. Connivent (connivens), when several filaments bend towards one another at their points.

13. Incurved (incurvum), that has a bend like a bow.

14. Declined (declinatum), when several filaments do not stand erect, but by degrees, without describing a large curve, bend towards the upper or under part of the flower; as in *Pyrola*.

15. Hairy (pilosum), set with fine hairs.

16. Equal (æquale), that are all of equal length.

17. Unequal (inæquale), when some are long and some short.

237. The anther (anthera), is a hollow cellular body, that contains a quantity of pollen. Its kinds are the following:—

1. Oblong (oblonga), which is long and pointed at both ends.

2. Linear (linearis), that is long and flat, but all of equal breadth.

3. Spherical (globosa), when perfectly round.

4. Kidney-shaped (reniformis), that is spherical on one side, but concave on the other; as in ground ivy, *Glechoma hederacea*, fox-glove, *Digitalis purpurea*, &c.

5. Doubled (didyma), when two seem to be joined together.

6. Arrow-shaped (sagittata), that has a long point, and is cleft at the base into two parts.

7. Bifid (bifida), that is linear, but cleft above and below, as in the grasses.

8. Peltated (peltata), that is circular, flat on both sides, and attached by the middle to the filament; as in the yew, *Taxus baccata*.

9. Dentated (dentata), that on the margin has dents or indentations; as in the yew, *Taxus baccata*.

10. Hairy (pilosa), that is covered with hair; as in the dead nettle, *Lamium album*.

11. Two-horned (bicornis), which has at its apex two subulate prolongations, as in *Pyrola*, *Arbutus*, *Erica*, &c.

12. Awned (aristata), that at the base has two bristle-shaped appendages, as in *Erica*.

13. Crested (cristata), when two cartilaginous points are set on the sides or on the base; as in some heaths, *Ericæ*.

14. Awnless (mutica), when it has neither awn nor crest. It is the opposite of No. 12, 13.

15. Angulated (angulata), that has several deep furrows that form four or more angles.

16. Bilocular (bilocularis), when the anther is divided by a partition into two parts or cells.

17. Unilocular (unilocularis), when there is but one cell or cavity in the anther.

18. Bursting at the side (lateredehiscens.)

19. Bursting at the point (apice dehiscens.)
20. Free (libera), that is not attached to another anther.
21. Connate (connata), when several grow together, forming a tube.
22. Erect (erecta), standing with its base straight on the point of the filament.
23. Incumbent (incumbens), that is perpendicularly, or even obliquely, attached to the filament.
24. Lateral (lateralis), that is attached, by its side, to the point of the filament.
25. Moveable (versatilis), when Nos. 23 and 24 are so slightly attached to the filament that the least motion agitates the anther.
26. Adnate (adnata), when the anther is closely attached to both sides of the point of the filament.
27. Sitting (sessilis), that has no filament.
238. The pollen is a powder, that appears in the form of the finest dust. In the microscope its figure is various, being hollow, and filled with a fertilising moisture.
239. The Pistillum is the organ which occupies the centre of the flower, and which finally terminates the development of the inflorescence, just as a bud terminates the progress of the foliage. Hence it has been philosophically considered as a bud in a particular state. It consists of three parts; the ovarium, the style, and the stigma.
240. The Ovarium is the undermost part of the pistillum, and is the rudiment of the future fruit. The number of ovaria is very various; they are reckoned from six to eight, after which they are said to be several or many ovaria. The figure is also very different. The principal kinds are:—
 1. Sitting (sessile), that has no foot-stalk.
 2. Pedicelled (pedicellatum), furnished with a foot-stalk.
 3. Superior (superum), when the germen is encircled by the calyx, or, when this is wanting, by the other parts of the flower.
 4. Inferior (inferum), when the ovary is situated under the calyx, or, when this is wanting, under the corolla.
241. The style (stylus), is seated upon the germen, and resembles a small column or stalk. The kinds of it are the following:—
 1. Hair-like (capillaris), that is very slender, and of equal thickness.
 2. Bristle-like (setaceous), as slender as the former, but somewhat thicker at the base.
 3. Thread-like (filiformis), which is long and round.
 4. Awl-shaped (subulatus), thick below, above sharp pointed.
 5. Gross (crassus), that is very thick and short.
 6. Club-shaped (clavatus), thicker above than below.
 7. Two, three, four, &c. multifid (bi-tri-quadrifid, &c., multifidus), cleft in a determined manner.
 8. Dichotomous (dichotomus), divided into two parts, which are again divided at the points.
 9. Terminal (terminalis), which stands on the top of the germen.
 10. Lateral (lateralis), attached to the inside of the germen.
 11. Erect (rectus), which stands straight up.
 12. Declined (declinatus), that inclines towards the side.
 13. Abiding (persistens), that does not fall off.
 14. Withering (marcescens), that withers and afterwards falls off.
 15. Deciduous (deciduus), that falls off immediately after impregnation.
- The number of the styles must likewise be accurately counted; for there is often more than one style to one germen, and this must be particularly observed. The length of the style, whether longer or shorter than the stamina, is also to be mentioned.
242. The stigma means the top of the style. The kinds of it are as follows:—
 1. Pointed (acutum), when it has a sharp point.
 2. Blunt (obtusum), when it forms a blunt point.
 3. Oblong (oblongum), when it is thick and elongated.
 4. Club-shaped (clavatum), resembling a small club.
 5. Spherical (globosum), forming a perfectly round globe.
 6. Capitate (capitatum), a hemisphere, the under side flat.
 7. Emarginated (emarginatum), when the last-mentioned kind has a notch in it.
 8. Peltated (peltatum), that is formed like a shield.
 9. Uncinated (uncinatum), hooked at the point.
 10. Angular (angulosum), when it is furnished with close and deep furrows, which occasion projecting angles.
 11. Three-lobed (trilobum), which consists of three round bodies, somewhat pressed flat.
 12. Dentated (dentatum), when it is set with fine teeth.
 13. Cruciform (cruciforme), when it is divided into four parts, of which two are always opposite to each other.
 14. Pencil-like (penciliforme), consisting of a number of short, thick, close, fleshy fibres, in form of a pencil.
 15. Hollow (concavum), when it is of a globular or longish form, but quite hollow, as in the violet.
 16. Petal-like (petaloideum), when it has the appearance of a petal; as in Iris.
 17. Two, three, and multifid (bi, tri, &c. multifidum).
 18. Bent-back (revolutum), when the points of a bifid or multifid stigma are rolled back outwards.
 19. Bent in (convolutum), when the points of a divided stigma are rolled inwards.
 20. Spiral (spirale), when a multifid stigma is rolled up like the spring of a watch.
 21. Plumose (plumosum), when the stigma is set with fine hairs on both sides, so as to have the appearance of a feather; as in the grasses.
 22. Hairy (pubescens), that is set with short white hairs.
 23. Lateral (laterale), which is situated on the side of the stylus or of the germen.

24. Sitting (sessile), which, when there is no style, rests on the germen.

The stigma, properly speaking, consists of a number of inhaling tubercles, which are not always visible without a magnifier. In the *Mirabilis Jalapa* they are to be seen most distinctly.

243. The discus is a fleshy ring, surrounding the pistillum at its base; and is one of the various things which Linnaeus indiscriminately named nectary. It generally exists in the form of a ring, or annulus, into which the stamens are inserted, or not, as the case may be. Occasionally it is so much enlarged as to enclose the pistillum in part, as in *Paonia Moutan*, or entirely, as in *Nelumbium*, when it constitutes the principal part of the fruit.

244. The fruit is the perfection of vegetation. It is by this part that all plants are perpetuated; and with this, in many plants, existence terminates. In common language, the term is applied to such as are fleshy and eatable; but, in scientific language, it signifies the fecundated ovary in a ripe state; and, in a more extended sense, the aggregation of several ripe ovaria, even belonging to different flowers.

245. The essential parts of a fruit are the pericarp and the seed.

246. The pericarp is the covering of the seed, and the most external part of the fruit. It is terminated at the one end by the vestiges of the style, and at the other by the receptacle or peduncle. It consists of three parts: 1. the epicarp, which is the skin or outer coat; 2. the sarcocarp, which constitutes the flesh in fleshy fruits, and is the substance immediately covered by the epicarp; 3. the endocarp, which is the inner lining of the fruit, and the same as Gartner has called putamen.

247. The pericarp is always present in the ovary, but sometimes is obliterated in the fruit. It is sometimes internally divided by partitions, which are called dissepiments, and which bear on some part of their surface, generally at the inner angle, a fleshy or spongy mass, which is called the placenta, and on which the seeds are placed.

248. The pericarp varies in the mode of dehiscence, in degree of combination, in texture, and in relation to the perianthium. From variations in these modifications, fruits may be divided into five classes, and forty genera, disposed in the following manner:—

SECT. 1. SIMPLE

* SUPERIOR.

1. † Unilocular, or simple.

§ *Dehiscent*.

1. Utriculus.

2. Achenium.

3. Cariopsis.

4. Catoclesium.

5. Scleranthum.

6. Samara.

7. Glans.

8. Nux.

9. Drupa.

10. Lomentum.

* INFERIOR.

† Unilocular, or simple.

§ *Indehiscent*.

11. Stephanium.

12. Arcesthida.

* SUPERIOR.

1. † Unilocular, or simple.

§ *Dehiscent*.

13. Legumen.

14. Folliculus.

2. † Plurilocular, or compound.

§ *Indehiscent*.

15. Nuculanium.

16. Bacca.

17. Hesperidium.

18. Carcerulus.

19. Sterigmum.

§ *Dehiscent*.

25. Siliqua

26. Silicula.

27. Pyxidium.

28. Capsula.

29. Regmatus.

3. † Gynobasic.

31. Microbasis.

32. Sarcobasis.

4. † Multiplex.

33. Acinos.

34. Eterio.

35. Amalthea.

36. Asimina.

5. † Aggregate.

37. Sorosus.

38. Strobilus.

39. Ananassa.

* INFERIOR.

1. † Unilocular, or simple.

† Plurilocular, or compound.

§ *Indehiscent*.

20. Polyachenium.

21. Pomum.

22. Pepo.

23. Acrosarcum.

24. Balausta.

§ *Dehiscent*.

30. Diplostegia.

249. The foregoing are distinguished among themselves by the following additional characters:—

1. *Utriculus*. Pericarp bladdery monospermous, not adhering to the seed. Eleusine.

2. *Achenium*. Pericarp coriaceous, monospermous, or oligospermous, not adhering to the seed. Rosa. Thecidium of Mirbel is a variety.

3. *Cariopsis*. Pericarp usually thin, monospermous, always adhering closely to the seed and inseparable from it. Grasses. Also called Cerio.

4. *Catoclesium*. Pericarp coriaceous, monospermous, covered by the calyx, which does not adhere to it, but which is much enlarged. Sal-sola. To this must be referred Sacellus and Sphalerocarpium.

5. *Scleranthum*. Pericarp thin, monospermous, covered by the indurated base of the calyx or perianthium. Mirabilis. Also called Dyle-sium.

6. *Samara*. Pericarp coriaceous, oligospermous, with a long wing at its back. Acer. This fruit is either compound or simple, but always unilocular in its divisions.

7. *Glans*. Pericarp coriaceous, mono-dispermous, covered at the base by an indurated involucre, which takes the name of cup. Quercus, Laurus. Also called Calybio.

8. *Nux*. Pericarp woody, mono-dispermous, covered at the base by a foliaceous involucre. Peculiar to Corylus. The term is applied by many authors to nearly all the hard fruits, which



have only one or two seeds. Called also *Nucula* by Desvaux; but that term is employed by some botanists for the *Achenium*.

9. *Drupa*. Sarcocarp fleshy; endocarp bony and separable, mono-dispermous. *Amygdalus*. From this *Tryma* is not distinguishable.

10. *Lomentum*. Pericarp polyspermous, contracted at the interval between each seed, and separating there into joints. A form of the *Legumen*. *Hedysarum*.

11. *Stephanæum*. Pericarp inseparable from the calyx, and of variable consistence, monospermous. *Compositæ*. Also called *Cypsela*.

12. *Arcesthida*. Spherical monospermous, formed by the cohesion of several fleshy scales. *Juniperus*.

13. *Legumen*. Polyspermous, two-valved, one-celled. *Vicia*.

14. *Folliculus*. Polyspermous, one-valved, often spuriously two-celled. *Pæonia*.

15. *Nuculanum*. Sarcocarp fleshy, endocarp bony, often confluent. *Verbenacæ*. Differs from *drupa* in being compound. Also called *Pyrena* and *Nucula*.

16. *Bacca*. Pericarp pulpy, the cells obliterated, the seeds nidulant in the pulp, and having no distinct mode of connexion with the pericarp when ripe. *Jasminum*. This term is often applied very vaguely.

17. *Hesperidium*. Sarcocarp coriaceous, endocarp and placentas fleshy or pulpy, seeds nidulant, cells distinct. *Citrus*. Also called *Aurantium*.

18. *Carcerulus*. Pericarp dry, cells not more than five, within confluent or distinct. *Tilia*.

19. *Sterigmmum*. Pericarp dry, cells very numerous, more than five, occasionally dehiscent slightly. This is hardly different from the last. *Malva*.

20. *Polyachenium*. Pericarp and calyx inseparable, dry, cells opposite, separating from the top of the common axis. Umbelliferae. Called *Carpodellum* when the cells exceed two, and the pericarp is slightly fleshy; as in *Aralia*.

21. *Pomum*. Pericarp and calyx inseparable, forming a fleshy mass, endocarp variable in texture, never pulpy. *Pyrus*.

22. *Pepo*. Pericarp and calyx inseparable, fleshy, endocarp pulpy, seeds parietal, when ripe nidulant in pulp. *Cucumis*. Also named *Peponida*.

23. *Adrosarcum*. The same as *bacca*, but the calyx adheres to the pericarpium. An inferior berry. *Ribes*.

24. *Balausta*. Pericarp coriaceous, enclosing a number of irregular cells, containing seeds with a pulpy testa. *Punica*. An inferior *Hesperidium*.

25. *Siliqua*. Pericarp linear, polyspermous, two-valved, valves separating from the face of the dissepiment. *Brassica*.

26. *Silicula*. Pericarp round or oblong, oligospermous, two-valved, valves separating from the face of the dissepiment. *Draba*.

27. *Pxyidium*. Pericarp polyspermous, separating into two halves by a circular horizontal separation, so that the valves resemble two hemispheres. *Anagallis*. The lower valve is called *amphora*, the upper *operculum*.

28. *Capsula*. Pericarp polyspermous, separating vertically into valves. *Silene*.

29. *Regmatus*. Pericarp separating with elasticity into mono or dispermous cells (cocci), which are pendulous from the apex of a common axis, and are more or less dehiscent. *Euphorbia*. Scarcely distinct from *polyachenium*. Also called *Cremocarpium*.

30. *Diplostegia*. Pericarp polyspermous, variable in consistence, inseparable from the calyx, dehiscing in various manners. May be considered an inferior capsule. *Hydrangea*.

31. *Microbasis*. Pericarpia several, monospermous, indehiscent, dry, attached by the base to a common style, and seated on a receptacle called the gynobase. *Labiata*. The naked seeds of *Linnaeus*.

32. *Sarcobasis*. A mere variety of the last, from which it scarcely differs, except in having fleshy pericarpia upon an enlarged fleshy gynobase. *Ochna*.

33. *Acinus*. Drupes, very small and numerous, arranged on an elongated receptacle, and when becoming confluent when ripe, having a membranous covering. *Fragaria*. This is the *Syncarpa* of Richard, but not of others. *Polyssecus* seems to be not distinguishable from this.

34. *Etærio*. Pericarpia several, formed from distinct ovaries, and arranged around an imaginary centre, generally polyspermous and dehiscent. *Sempervivum*. This is also the *Plocarpium* of Desvaux.

36. *Amalthea*. Composed of several achenia, enclosed within the cavity of a coriaceous calyx. *Rosa*. Also called *Cynarrhodon*.

37. *Asimina*. Ovaries numerous, bacciform, one-celled, produced from a single flower, and united in a solid fleshy fruit. *Anona*. Very near the *acinus*, from which it differs chiefly in size, and in having its outer coat coriaceous, not membranous.

38. *Sorosus*. Pericarpia very numerous, dry, generally achenia, arranged upon a fleshy receptacle, which is urceolate, and enclosed at its mouth. *Ficus*. Also called *Syconus*.

39. *Strobilus*. Pericarpia many, indehiscent, unilocular, monospermous, each enclosed in an indurated scale. Scales imbricated, forming by their cohesion a hard irregular cone. *Pinus*. Of this *Galbalus* is a mere variety.

40. *Ananassa*. Pericarpia many, indehiscent, polyspermous, cohering with the calyx, and seated each in the axilla of a fleshy scale, which coheres with them, and in maturity forms a solid fleshy mass. *Bromelia*.

250. The seed is that part of the fruit which is enclosed in the pericarp, and which contains the rudiments of the future plant. It consists of three distinct parts, the *testa*, the *albumen*, and the *embryo*.

251. The *testa* is the external covering or coat of the seed. Some writers distinguish it into three parts; calling the external skin the *testa*, the intermediate substance the *sarcode*, and the interior pellicle the *endopleura*.

252. The scar upon the *testa*, which indicates the point by which the seed was attached to the placenta, is called the *hilum*. On this space two distinct points are observable, viz. the *omphalo-*

dium, a protuberant point, situated for the most part in the middle of the hilum, and indicating the point by which the nourishing vessels have passed; and the micropyle or foramen, which is a point situated by the side of the umbilicus, and is supposed by some authors to mark the spot by which the fecundating vessels have terminated; but is declared by Mr. Brown to indicate a perforation existing in the ovulum, through which a fecundating aura is communicated to the embryo, and which never has any vascular connexion with the pericarpium.

253. Chalaza is a point marked upon the endopleura, and indicates the place where the umbilical cord pierces it. This point is ordinarily under the hilum; sometimes it is at a distance from it, in which case it is connected with the hilum by a bundle of vessels called the raphe.

254. Strophilæ are callous or fungous lumps, generally found about the hilum of certain seeds; sometimes they are otherwise stationed.

255. The kernel is the name given to all the parts of the seed included under the testa.

256. The albumen is that part of the kernel which surrounds the embryo, which never adheres to it, which possesses no vascular organisation, and which is of various degrees of texture, being either fleshy, or corneous, or ligneous, or feculent, or granular, &c.

257. The embryo is that part of the kernel which exists in all fecundated seeds, and which is destined to reproduce the plant which bore it. It is divided into three parts, viz. the radicle, the plumula, and the cotyledons.

258. The radicle is that part of the embryo which becomes the root, and which, in the ripe seed, is always directed away from the chalaza.

259. The plumula is the part which is destined to be the stem, and which is situated at the base of the cotyledons.

260. The cotyledons are the organs which adhere to the plumula, and which become the first leaves of the plant. Their purpose is to supply nourishment to the young plant, until it shall be in a condition to elaborate food for itself.

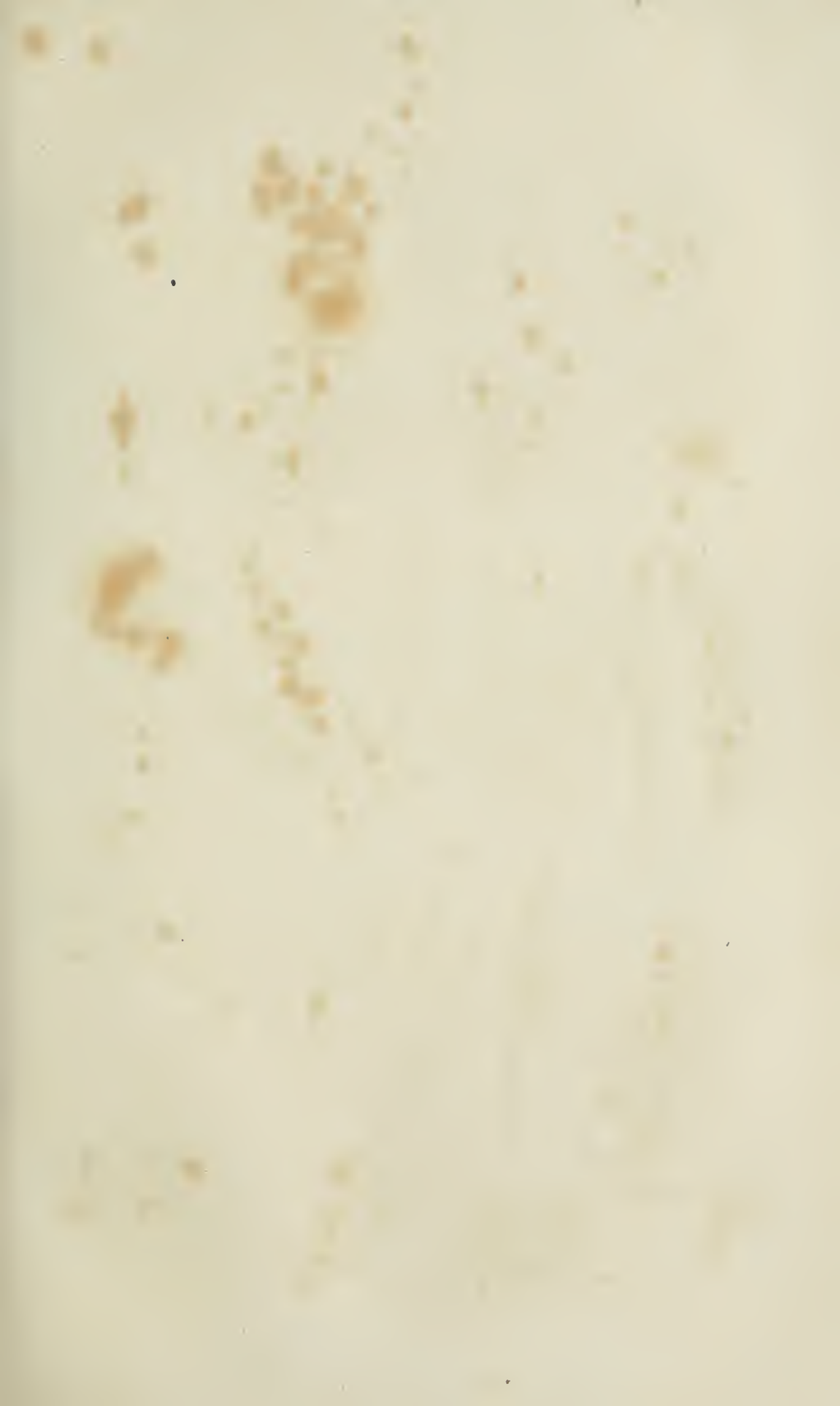
261. The merits and objects of the artificial and natural systems of botany having been already discussed, it now only remains to explain the peculiar details of each, for which purpose, that of Linnæus, as it was left by him and that of Jussieu, as at present received, will suffice.

LINNÆAN SYSTEM

262. The classes of this system depend either upon the number, proportion, or insertion, of the stamens or male organs, as explained in the following table:

TABLE OF THE CLASSES.

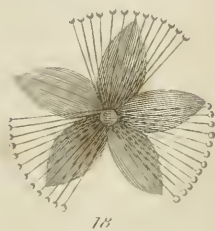
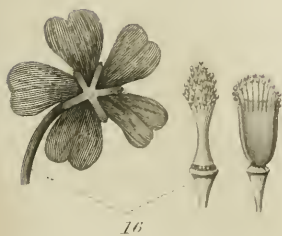
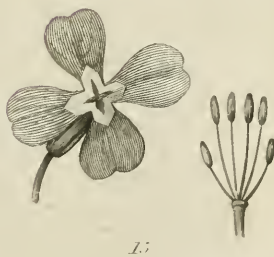
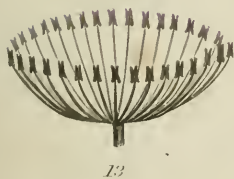
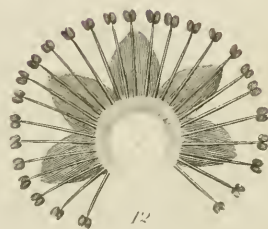
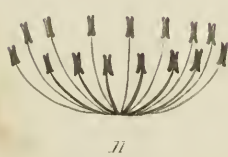
Plants, which celebrate their nuptials.	Either PUBLICLY, i. e. have visible flowers:	
	Among the Monoclinia, there is either	MONOCLINIA, males and females in the same bed: i. e. The flowers are all hermaphrodite:
		DIFFINITAS, the males or stamina unconnected with each other:
		Indifferentissima, i. e. the males have no fixed proportion as to length:
		1. MONANDRIA, i. e. one male or stamen in a hermaphrodite flower.
		2. DIANDRIA, . two males or stamina.
		3. TRIANDRIA, . three males.
		4. TETRANDRIA, . four males.
		5. PENTANDRIA, . five males.
		6. HEXANDRIA, . six males.
	In these the stamina are either	7. HEPTANDRIA, . seven males.
		8. OCTANDRIA, . eight males.
		9. ENNEANDRIA, . nine males.
		10. DECANDRIA, . ten males.
		11. DODECANDRIA, . twelve males.
		12. ICOSANDRIA, . twenty, or more males inserted into the calyx.
		13. POLYANDRIA, . all above twenty males inserted into the receptacle.
		Or Subordinata, two of the males are uniformly shorter than the rest.
		14. DIDYNAMIA, . four males, two long and two short.
		15. TETRADYNAMIA, . six males, four long and two short.
		Or AFFINITAS, the stamina either connected to each other, or to the pistillum.
		16. MONADELPHIA, the stamina united into one body by the filaments.
		17. DIADELPHIA, the stamina united into two bodies by the filaments.
		18. POLYADELPHIA, the stamina united into three or more bodies by the filaments.
		19. SYNGENESIA, the stamina united into a cylindrical form by the antheræ.
		20. GYNANDRIA, the stamina inserted into the pistillum.
		Or DICLINIA, males and females in separate beds: i. e. plants that have stamina and pistilla in different flowers in the same species.
		21. MONECIA, male and female flowers distinct in the same plant.
		22. DICECIA, males and females in different plants, of the same species.
		23. POLYGAMIA, male, female, and hermaphrodite flowers in the same or different plants.
	Or CLANDESTINELY, i. e. have their parts of fructification either invisible or not distinct.	
	24. CRYPTOGAMIA, the flowers invisible, so that they cannot be ranked according to the parts of fructification, or distinctly described.	



BOTANY.
LINNEAN SYSTEM.
Classes

PLATE II.







The orders of the first thirteen classes are distinguished by the number of the styles; of the fourteenth by the nature of the fruit, which is what the Linnæan botanists call 'naked seeds' in the first, and 'covered' in the second; of the fifteenth by the length of the pericarpium; of the sixteenth, seventeenth, eighteenth, twentieth,

twenty-first, and twenty-second, by the number or situation of the stamens; of the nineteenth by the relative sexes of the florets of the disk, and ray of the capituli; of the twenty-third by the sex of the flowers; and of the twenty-fourth by such general characters as are used in discriminating genera. The following is a

TABLE OF THE ORDERS.

CLASSES.	NUMBER and NAMES of the ORDERS.
1. MONANDRIA	2 Monogynia, Digynia.
2. DIANDRIA	3 Monogynia, Digynia, Trigynia.
3. TRIANDRIA	3 Monogynia, Digynia, Trigynia.
4. TETRANDRIA	3 Monogynia, Digynia, Tetragynia.
5. PENTANDRIA	6 Monogynia, Digynia, Trigynia, Tetragynia, Pentagynia, Polygynia.
6. HEXANDRIA	5 Monogynia, Digynia, Trigynia, Tetragynia, Polygynia.
7. HEPTANDRIA	4 Monogynia, Digynia, Tetragynia, Heptagynia.
8. OCTANDRIA	4 Monogynia, Digynia, Trigynia, Tetragynia.
9. ENNEANDRIA	3 Monogynia, Trigynia, Hexagynia.
10. DECANDRIA	5 Monogynia, Digynia, Trigynia, Pentagynia, Decagynia.
11. DODECANDRIA	5 Monogynia, Digynia, Trigynia, Pentagynia, Dodecagynia
12. ICOSANDRIA	5 Monogynia, Digynia, Trigynia, Pentagynia, Polygynia.
13. POLYANDRIA	7 { Monogynia, Digynia, Trigynia, Tetragynia, Pentagynia, Hexagynia, Polygynia.
14. DIDYNAMIA	2 Gymnospermia, Angiospermia.
15. TETRADYNAMIA	2 Siliculosa, Siliquosa.
16. MONADELPHIA	8 { Triandria, Pentandria, Octandria, Enneandria, Decandria, Endecandria, Dodecandria, Polyandria.
17. DIADELPHIA	4 Pentandria, Hexandria, Octandria, Decandria.
18. POLYADELPHIA	4 Pentandria, Dodecandria, Icosandria, Polyandria.
19. SYNGENESIA	6 { Polygamia æqualis, Polygamia superflua, Polygamia frustranea, Polygamia necessaria, Polygamia segregata, Monogamia.
20. GYNANDRIA	2 Monandria, Diandria.
21. MONÆCIA	11 { Monandria, Diandria, Triandria, Tetrandria, Pentandria, Hexandria, Heptandria, Polyandria, Monadelphia, Syngenesia, Gynandria.
22. DIÆCIA	15 { Monandria, Diandria, Triandria, Tetrandria, Pentandria, Hexandria, Octandria, Enneandria, Decandria, Dodecandria, Icosandria, Polyandria, Monadelphia, Syngenesia, Gynandria.
23. POLYGAMIA	3 Monœcia, Diœcia, Triœcia.
24. CRYPTOGRAMIA	4 Filices, Musci, Algæ, Fungi.

NATURAL SYSTEM.

263. The following is the arrangement, adopted by the most modern botanists of reputation, of the natural orders of plants. The basis of it is the system of B. Jussieu, published, in 1789, by his nephew, Anthony Jussieu; but so many alterations and additions have been consequent upon the progress of modern science, that it has at present only a distant resemblance to its original. The best works to be consulted upon the natural system, are, for British plants, Hooker's *Flora Scotica*; for general botany, the *Regni Vegetabilis Systema Naturale* of De Candolle, the *Prodromus Systematis Naturalis Regni Vegetabilis* of the same author, the *Nouveaux Elémens de la Botanique* of Richard, the *Théorie Élémentaire de la Botanique* of De Candolle, &c. There is at present (June, 1826,) no English work upon the subject of the natural arrangement of plants which deserves to be consulted.

TABLE OF THE NATURAL ORDERS OF PLANTS, ARRANGED IN A LINEAR SERIES.

I. VASCULAR OR COTYLEDONEOUS. (System furnished with cellular tissue, and tubular vessels Reproductive organs spermiaceous.)

* DICOTYLEDONEOUS, OR EXOGENOUS. (Vessels arranged in concentric layers, of which the youngest are exterior Cotyledons opposite or whorled.)

† COMPLETE. Calyx and corolla, both present.

1. POLYPETALOUS.

§ *Petals hypogynous.*

a. *Carpella numerous, or stamens opposite the petals.*

i. Ranunculacæ.

1. Clematidæ.

2. Anemoneæ.

3. Ranunculeæ.

4. Helleboreæ.

5. Pæoniaceæ.

ii. Dilleniaceæ.

1. Delimeæ.

2. Dilleneæ.

iii. Magnoliacæ.

1. Illicieæ.

2. Magnolieæ.

iv. Anonacæ.

v. Menispermaceæ.

1. Lardizabaleæ.

2. Menispermææ.

3. Schizandreæ.

vi. Berberidæ.

- vii. Podophyllacææ.
- 1. Podophyllææ.
- 2. Hydropeltideææ.
- viii. Nymphæacææ.
- 1. Nelumboneææ.
- 2. Nymphæææ.

β. *Carpella solitary or consolidated; Placentas parietal.*

- ix. Papaveracææ.
- x. Fumariacææ.
- xi. Cruciferææ.
- 1. Arabideææ.
- 2. Alyssineææ.
- 3. Thlaspidæææ.
- 4. Euclidieææ.
- 5. Anastaticæææ.
- 6. Cakilineææ.
- 7. Sisymbreææ.
- 8. Camelineæææ.
- 9. Lepidineææ.
- 10. Isatideææ.
- 11. Archonieææ.
- 12. Brassicæææ.
- 13. Velleææ.
- 14. Psychineæææ.
- 15. Zillæææ.
- 16. Raphanæææ.
- 17. Buniadæææ.
- 18. Erucarieæææ.
- 19. Heliophileæææ.
- 20. Subularieæææ.
- 21. Brachycarpeæææ.
- xii. Capparidæææ.
- 1. Cleomeæææ.
- 2. Cappareæææ.
- xiii. Resedacæææ.
- xiv. Flacourtianæææ.
- 1. Patrisieæææ.
- 2. Flacourtieæææ.
- 3. Kiggelarieæææ.
- 4. Erythrospermeæææ.
- xv. Bixineæææ.
- xvi. Cistineæææ.
- xvii. Violarieæææ.
- 1. Violeæææ.
- 2. Alsodineæææ.
- 3. Sauvageæææ.
- xviii. Droseracæææ.
- xix. Polygalæææ.
- xx. Tremandreeææ.
- xxi. Pittosporæææ.
- xxii. Frankeniaceæææ.
- γ. *Ovary solitary. Placenta central.*
- xxiii. Caryophyllæææ.
- 1. Sileneæææ.
- 2. Alsineæææ.
- xxiv. Lineæææ.
- xxv. Malvacæææ.
- xxvi. Byttneriaceæææ.
- 1. Sterculieæææ.
- 2. Byttnerieæææ.
- 3. Lasiopetaleæææ.
- 4. Hermannieæææ.
- 5. Dombeyaceæææ.
- 6. Wallichieæææ.
- xxvii. Iiliacæææ.
- xxviii. Elæocarpææææ.
- xxix. Chlenacææææ.

- xxx. Ternströmiaceæææ.
- 1. Ternströmieææææ.
- 2. Frezierieææææ.
- 3. Sauraveææææ.
- 4. Laplaceææææ.
- 5. Gordonieææææ.

- xxxii. Camellieææææ.
- xxxiii. Olacineææææ.
- xxxiv. Aurantiaceææææ.
- Hypericineæææææ.
- 1. Vismieæææææ.
- 2. Hypericeæææææ.
- xxxv. Guttiferæææææ.
- 1. Clusieæææææ.
- 2. Garcinieæææææ.
- 3. Calophylleæææææ.
- 4. Symphonieæææææ.
- xxxvi. Marcgraaveaceææææ.
- 1. Marcgraavieæææææ.
- 2. Noranteæææææ.
- xxxvii. Hippocrateaceææææ.
- xxxviii. Erythroxyleæææææ.
- xxxix. Malpighiaceæææææ.
- 1. Malpighieææææææ.
- 2. Hiptageææææææ.
- 3. Banisterieææææææ.

- x. Acerineæææææ.
- xli. Hippocastaneæææææ.
- xlvi. Rhizoboleæææææ.
- xlvi. Sapindaceææææææ.
- 1. Paullinieæææææææ.
- 2. Sapindeæææææææ.
- 3. Dodonæaceææææææ.
- xliv. Meliaceææææææ.
- 1. Melieæææææææ.
- 2. Trichilieæææææææ.
- 3. Cedreleæææææææ.

- xliv. Ampelidæææææææ.
- 1. Viniferæææææææ.
- 2. Leeaceæææææææ.
- xlvi. Geraniaceææææææ.
- xlvi. Tropæoleæææææææ.
- xlvi. Balsamineæææææææ.
- xlvi. Oxalidæææææææ.
- 1. Zygophylleæææææææ.
- li. Rutaceæææææææ.
- 1. Diosmeæææææææ.
- 2. Cusparieæææææææ.
- lii. Coriariæææææææ.

δ. *Fruit gynobasis.*

- liii. Simarubeæææææææ.
- liv. Ochnaceæææææææ.

§§. *Petals, either separated or united, always perigynous.*

- lv. Celastrineæææææææ.
- 1. Staphylæacæææææææ.
- 2. Euonymæææææææ.
- 3. Aquifoliaceæææææææ.
- lvi. Rhamneæææææææ.
- lvii. Bruniaceæææææææ.
- lviii. Samydeæææææææ.
- lix. Homalineæææææææ.
- lx. Chailletieæææææææ.
- lxi. Aquilarieæææææææ.
- lxii. Terebintaceæææææææ.
- 1. Cassuvieæææææææ.
- 2. Sumachineæææææææ.
- 3. Spondiaceæææææææ.

4. Burseraceæ.
5. Amyrideæ.
6. Pteleaceæ.
7. Connaraceæ.
- lxiii. Leguminosæ
 1. Sophoreæ.
 2. Loteæ.
 3. Hedysareæ.
 4. Viciæ.
 5. Phaseoleæ.
 6. Dalbergiæ.
 7. Swartziæ.
 8. Mimoseæ.
 9. Geoffræ.
 10. Cassiæ.
 11. Detariæ.
- lxiv. Rosaceæ
 1. Chrysobalanæ.
 2. Amygdalæ.
 3. Spiræacæ.
 4. Neuradæ.
 5. Dryadæ.
 6. Roseæ.
 7. Pomaceæ.
- lxv. Salicariæ.
- lxvi. Tamariscinæ.
- lxvii. Melastomaceæ.
- lxviii. Myrtaceæ.
- lxix. Combretaceæ.
- lxx. Cucurbitaceæ.
- lxxi. Passifloreæ.
- lxxii. Loaseæ.
- lxxiii. Onagrarizæ.
- lxxiv. Ficoideæ.
- lxxv. Paronychiæ.
- lxxvi. Portulacæ.
- lxxvii. Cactæ.
- lxxviii. Grossulacæ.
- lxxix. Crassulacæ.
- lxxx. Saxifrageæ.
- lxxxi. Cunoniaceæ.
- lxxxii. Umbelliferæ
 1. Hydrocotylinæ.
 2. Bupleurinæ.
 3. Pimpinellæ.
 4. Smyrniæ.
 5. Caucalinæ.
 6. Scandicinéæ.
 7. Amminæ.
 8. Selinæ.
- lxxxiii. Araliacæ.
- lxxxiv. Caprifoliacæ.
- lxxxv. Lorantheæ.
- lxxxvi. Hamamelidæ.
- lxxxvii. Rubiacæ.
- lxxxviii. Operculariæ.
- lxxxix. Valerianæ.
- xc. Dipsacæ.
- xc. Calyceræ.
- xcii. Compositæ
 1. Lactucæ.
 2. Carlinæ.
 3. Centauriæ.
 4. Carduinæ.
 5. Echinopsæ.
 6. Arctotidæ.
 7. Calendulæ.
 8. Tagetinæ.
 9. Heliantheæ.

10. Ambrosiæ.
 11. Anthemidæ.
 12. Inulæ.
 13. Astereæ.
 14. Senecionæ.
 15. Nassauviæ.
 16. Mutisiæ.
 17. Tussilaginéæ.
 18. Adenostylæ.
 19. Eupatoriæ.
 20. Vernoniæ.
 - xciii. Campanulacæ.
 - xciv. Lobeliacæ.
 - xcv. Gesneriæ.
 - xcvi. Vacciniæ.
 - xcvii. Ericæ.
 - xcviii. Monotropæ.
- § § § *Petals combined in an hypogynous corolla.*
- xcix. Myrsinæ
 - c. Sapotæ.
 - ci. Ebenacæ.
 - cii. Oleinæ.
 - ciii. Jasmînæ.
 - civ. Strychnæ.
 - cv. Apocynæ.
 - cvi. Gentianæ.
 - cvi. Bignoniæ.
 - cvi. Sesameæ.
 - cix. Polemoniæ.
 - cx. Convolvulacæ.
 - cx. Boraginæ.
 - cxii. Hydrophyllæ.
 - cxiii. Cordiacæ.
 - cxiv. Solanæ.
 - cxv. Scrophularinæ
 1. Antirrhinæ.
 2. Rhinanthæ.
 3. Melampyracæ.
 - cxvi. Myoporinæ.
 - cxvii. Pedalinæ.
 - cxviii. Labiatæ.
 - cxix. Verbenacæ.
 - cxx. Acanthacæ.
 - cxix. Lentibulariæ.
 - cxix. Primulacæ.
 - cxix. Globularinæ.
- † † INCOMPLETE.—*Calyx and corolla con-
founded.*
- cxix. Plumbaginæ.
 - cxix. Plantaginæ.
 - cxix. Nyctaginæ.
 - cxix. Amarantacæ.
 - cxix. Chenopodæ.
 - cxix. Begoniæ.
 - cxix. Polygonæ.
 - cxix. Laurinæ.
 - cxix. Myristicæ.
 - cxix. Proteacæ.
 - cxix. Penæacæ.
 - cxix. Thymelæ.
 - cxix. Santalacæ.
 - cxix. Elæagnæ.
 - cxix. Aristolochiæ.
 - cxix. Euphorbiæ
 - cx. Calycanthæ.
 - cxli. Monimiæ.
 - cxlii. Urticæ.
 - cxliii. Piperacæ.

cxliv. Chloranthææ.

cxlv. Amentaceæ.

1. Ulmaceæ.

2. Salicineæ.

cxlvi. Casuarineæ.

cxlvii. Coniferæ.

**** MONOCOTYLEDONEOUS, or ENDOGENOUS.**—
(Vessels disposed in parcels, of which the youngest are in the centre. Cotyledons solitary, or alternate, or absent).

† **PHÆOGAMOUS.** Fructification visible or regular.

cxlviii. Cycadeæ.

cxlix. Hydrocharideæ.

cl. Alismaceæ.

cli. Orchideæ.

1. Neottieæ.

2. Arethuseæ.

3. Gastrodieæ.

4. Ophrydeæ.

5. Vandææ.

6. Epidendreæ.

7. Malaxideæ.

8. Cypripédieæ.

clii. Scitamineæ.

cliii. Marantææ.

cliv. Bromeliæ.

clv. Irideæ.

clvi. Hypoxideæ.

clvii. Hæmodoraceæ.

clviii. Amaryllideæ.

clix. Hemerocallideæ.

clx. Liliaceæ.

clxi. Melanthaceæ.

clxii. Dioscoreæ.

clxiii. Smilacææ.

clxiv. Asphodeleæ.

clxv. Juncææ.

clxvi. Butomeæ.

clxvii. Restiaceæ.

clxviii. Eriocaulææ.

clxix. Commelineæ.

clxx. Pontedereæ.

clxxi. Palmæ.

clxxii. Pandanææ.

clxxiii. Aroideæ.

clxxiv. Typhineæ.

clxxv. Fluviales.

clxxvi. Juncagineæ.

clxxvii. Pistiaceæ.

clxxviii. Cyperaceæ.

1. Cyperææ.

2. Scirpææ.

3. Sclerineæ.

4. Caricineæ.

clxxix. Gramineæ.

1. Paniceæ.

2. Stipacææ.

3. Agrostideæ.

4. Bromeææ.

5. Chlorideæ.

6. Cereales.

7. Saccharineæ.

8. Oryzææ.

9. Bambusacææ.

†† **CRYPTOGAMOUS.** Fructification unknown or irregular.

clxxx. Filices.

1. Polypodiaceæ.

2. Osmundaceæ.

3. Ophioglosseæ.

clxxxi. Equisetaceæ.

clxxxii. Lycopodiaceæ.

clxxxiii. Marsileaceæ.

II. CELLULAR, or ACOTYLEDONOUS. (System composed of cellular tissue without tubular vessels. Reproductive organs gemmaceous.

clxxxiv. Musci.

clxxxv. Hepaticæ.

clxxxvi. Algæ.

1. Diatomææ.

2. Nostochinæ.

3. Confervoidææ.

4. Ulvaceæ.

5. Florideæ.

6. Fucoideæ.

clxxxvii. Lichens.

1. Idiothalamæ.

2. Cænothalamæ.

3. Homothalamæ.

4. Athalamæ.

5. Pseudo-lichenes

clxxxviii. Fungi.

1. Hymenomycetes.

2. Gasteromycetes.

3. Hyphomycetes.

4. Coniomycetes.

264. ABBREVIATIONS.

♂ A hermaphrodite flower.

♂ A male flower.

♀ A female flower.

♂—♀ Male and female flowers upon one stem (flores monoici).

♂ : ♀ Male and female flowers on different stems (flores dioici).

♂ Neuter flowers (flores neutri).

♂ | ♀ Hermaphrodite and female flowers in one compound flower (flores hermaphroditi et feminei); as in the class syngenesia.

♂ | ♂ Hermaphrodite and neuter flowers in one compound flower (flores hermaphroditi et neutri), in the same class.

♂—♂ Hermaphrodite and male flowers on one stem (flores polygami.)

♂—♀ Hermaphrodite and female flowers on one stem (flores polygami).

⊙ Annual,

♂ Biennial,

☞ Herbaceous,

♂ Shrubby,

☞ Climbing,

} In writing of the habits of plants.

! Affixed to the citation of an author, shows that an authentic specimen has been examined.

* Affixed in like manner shows that the work quoted contains a good description of the subject.

† Indicates something doubtful.

v. v. Seen alive.

v. s.—dried.

sp.— in a wild state.

c.— in a cultivated state.

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BOTANY BAY. See SOUTH WALES, NEW.

BOTANY-BAY RESIN, a gum which exudes spontaneously from the trunk, or wounded bark, of the *acarois resinifera* of New Holland. It is produced in such quantity that a man may collect thirty or forty pounds in a few hours. It pulverises without caking; and has a slightly sweet astringent taste. It melts at a moderate heat, and when kindled emits a white fragrant smoke. It imparts to water the flavor of storax. Out of nine parts six are soluble in water, and astringent to the taste; and two are woody fibre. In cases depending on a sluggishness, a debility, or flaccidity of the system, this medicine, assisted by proper exercise and diet, has, by removing the symptoms of dyspepsia, and by restoring the tone and action of the muscular fibres, been found very serviceable.

BOTARGO, in the culinary art, is a kind of sausage. The best kind comes from Tunis in Barbary: it must be chosen dry and reddish. The inhabitants of Provence use a great deal of it. The common way of eating it is with olive oil and lemon juice. There is also a great consumption of it throughout the Levant.

BOTCH, *v. & n.* } *Bozza*, pronounced
BOTCHER, } *botza*, Ital., or from the
BOTCH'Y, } Dutch *boetsen*, to bodge,
BOTCH'EDLY. } or *botche*; to patch together clumsily; unsuitably; unskillfully; to mend any thing awkwardly with pieces of a different quality or color: and thus irregularities in the skin, disfiguring spots, tumors, or eruptions have received the appellation of botches, as well as any adventitious parts, clumsily added, whether sentences or words, in composition; whether aberrations from nature, or bungling attempts of art; whatever is unsightly: an offence to the eye is a botch.

Go with me to my house,
And hear thou there, how many fruitless pranks
This ruffian hath *botched* up, that thou thereby
May smile at this. *Shakspeare.*

Her speech is nothing,
Yet the unshaped use of it doth move
The hearers to collection; they aim at it,
And *botch* the words up fit to their own thoughts. *Id.*
And those biles did run—say so;—Did not the
general run? Were not that a *botchy* rose? *Id.*

He was a *botcher's* prentice in Paris, from whence
he was whipt for getting the sheriff's fool with child. *Id.*

With him,
To leave no rubs or *botches* in the work,
Fleance, his son, must embrace the fate. *Id.*

Time, which rots all, and makes *botches* pox,
And, plodding on, must make a calf an ox,
Hath made a lawyer. *Donne.*

Botches and blains must all his flesh imboss,
And all his people. *Milton.*

To *botch* up what they had torn and rent,
Religion and the government. *Hudibras.*

Botches left old cloaths in the lurch,
And fell to turn and patch the church. *Id.*

If both those words are not notorious *botches*, I am
deceived, though the French translators think otherwise. *Dryden.*

Their coats, from *botching* newly brought, are torn. *Id.*

For treason *botched* in rhyme will he thy bane;
Rhyme is the rock on which thou art to wreck. *Id.*

VOL. IV

A comma ne'er could claim.

A place in any British name;
Yet, making here a perfect *botch*,
Thrusts your poor vowel from his notch. *Swift.*
Young Hylas, *botched* with stains too foul to name,
In cradle here renews his youthful frame. *Garth.*

It proves far more incommodious, which, if it were
propelled in boils, *botches*, or ulcers, as in the scurvy,
would rather conduce to health. *Harvey.*

BOTEREIUS (Rodolph), advocate in the
grand council of Paris, was author of the History
of Henry IV. in Latin, from 1594 to 1610, in 3
vols.

BOTETOURT, a large mountainous county
in Virginia, bounded on the north by the Fluvanna,
which separates it from Rock and Bath
counties; on the north-west by Green-briar;
and on the east by Bedford; south by Franklin,
and south west by Montgomery. Fincastle is
the chief town. It abounds with chalk, and is
forty-four miles long and forty broad.

BOTH, *adj. & conj.*, Sax. *bazua*, *batpa*, the
two; as well the one as the other. Fr. Et l'un
et l'autre. It is used only of two. The con-
junction is used as well: it has the conjunction
and to correspond with it.

A great multitude *both* of the Jews and also of the
Greeks believed. *Acts.*

The sommer passeth; and the nightes long
Encreasen, double wise, the peines strong,
Both of the lover [rover] and of the prisoner;
I n'ot which hath the wofuller mistere.

Chaucer's Canterbury Tales

My lord (quod I) this lady here,
Whom I esteeme aboue the rest,
Doth knowe my guile if any were;
Wherefore hir doome shall please me best:
Let hir bee judge and jurour *boathe*,
To try me guiltless by myne oathe. *Gascoigne.*

So he my love away with me hath borne,
And left me here *both* his and mine owne love to
mourne. *Spenser.*

Power to judge *both* quick and dead. *Milton.*

Both the boys were worthy to be praised,
And Stimichon has often made me long
To hear, like him, so sweet a song. *Dryden.*

Among the French, the odes of Jean Baptiste
Rousseau have been much and justly celebrated.
They possess great beauty *both* of sentiment and ex-
pression. *Blair's Lectures.*

The general construction of the Hebrew poetry is of
a singular nature, and peculiar to itself. It consists
in dividing every period into correspondent, for the
most part into equal, members, which answer to one
another, *both* in sense and sound. *Id.*

BORN (Andrew and John), Flemish painters,
and both pupils of Bloemart. The union of these
brothers was very singular: they were inseparable
in their studies, travels, and paintings. John
painted landscapes in the manner of Lorrain, and
Andrew figures and animals in the style of Bam-
boccio. John was drowned in 1650, and An-
drew died in 1656.

BOTHAGIUM, boothage, in law, customary
dues to the lord of the market, for the liberty of
pitching booths or tents.

BOTH'ER. Perhaps the same as pother,
both, ear, to make a din; to be addressed by
several at the same time; to confuse by noise;
to be assailed at both ears. Skinner says to
pother is to make a pudder, or rather a puther,
2 E

q. d. a powder; to raise a dust, as a horse running with speed; to perplex; to puzzle; to confound.

With every lady of the land

Soft Strephon kept a *pothor*;

One year he languished for one hand,

And next year for another.

Swift.

With the din of which tube my head you so *bothor*,
That I scarce can distinguish my right ear from t'other.

Id.

BOTHNIA, an extensive province of northern Europe, part of the ancient Scandinavia, and divided by the gulf of that name into East and West Bothnia. East Bothnia has the gulf on the west, and the range of mountains which separates it from the governments of Archangel and Olonetz on the east. It is bounded by Finland on the south, and Lapland on the north, and was in the year 1809 ceded by Sweden to Russia. It is included in the government of Finland, being in extreme length about 300 miles, its breadth varies from sixty to upwards of 200 miles. The population is estimated at 70,000. Near the western shore it is low and marshy, but good pasturage is found inland, and in favorable seasons the progress of vegetation is rapid; at other times it is often wholly destroyed by the frost. Eastward forests of excellent timber are found, and the lakes and rivers yield a copious supply of salmon. The inhabitants are chiefly Finns, who are occupied in fishing, hunting, and attending their cattle. The timber and some few mineral productions are the only articles of commerce. The principal rivers, most of which are near the coast, are Ulea, Cafana, Brahestad, Carleby, Jacobstadt, Mana, and Wasa.

West Bothnia, extending from the borders of Angermanland to the river Tornea, about 400 miles in length, and 100 in breadth, still belongs to the crown of Sweden. It forms part of the province of Nordland. The population is estimated at about 50,000. It abounds with forests of pine, mingled with juniper and birch trees. Von Buch says, that, in the vicinity of Tornea, the last rise above the Spanish and Scotch firs. West Bothnia is subdivided into the districts of Umea, Pitea, Lulea, and Tornea, having each a chief town of its own name. Umea is the capital of the whole. Corn and good pasturage are yielded here, sufficient for the consumption of the inhabitants; who in their occupations and manners resemble the East Bothnians. They carry on a small trade in pitch, tar, timber, fish, and skins. Dr. Clarke bears the following high testimony to their character: 'The natives of Westro-Bothnia, beyond all their countrymen, rank the foremost in pious and loyal disposition, and in simplicity and honesty. A foreigner who leaves his open truck in their inn-yards and stables, amidst all the haste and confusion which must sometimes take place in travelling day and night, and amidst the inability to attend to them, occasioned by pain or sickness, or weariness and want of rest, will have nothing with which to reproach the inhabitants.' Here, also, are some few iron and copper mines.

BOTHNIA, GULF OF, is that northern part of the Baltic which separates Sweden from Finland, and takes its name from the above province. It

is generally regarded as beginning at the island of Aland, and extending 360 miles in length, and 135 in extreme breadth, to Tornea, between lat. 60° 20' and 65° 50' N. It is often so completely frozen as to afford a safe and short passage between the countries. In common with the rest of the Baltic, its water, from the small evaporation, possesses a peculiar degree of freshness, and contains only one-third of the proportion of salt found in other sea water. It abounds in seals, from whose flesh the inhabitants of the shores obtain great quantities of train oil, and in salmon. The waters are said to be rapidly diminishing.

BOTHRIAS, or **BOTHRION**, *βοθριον*, in surgery; 1. The alveolus or socket of a tooth; 2, a small, narrow, but deepish, ulcer of the cornea of the eye, resembling a round puncture.

BOTHWELL (James Hepburn, Earl), a nobleman memorable in the Scottish history, as the husband of Mary Queen of Scots. After the murder of Darnley he seized upon her person, and carried her prisoner to Dunbar, where he prevailed on her to marry him; but a powerful confederacy having been formed against him, he was obliged to flee to the Orkneys, where he died in 1547.

BOTHWELL BRIDGE, an ancient bridge of four arches over the Clyde, in Bothwell parish, Lanark, Scotland, memorable for an engagement fought on the south side of it in 1679, between the royalists under Monmouth and the Whigs, wherein the latter were defeated with the loss of 400 slain and 1200 taken prisoners.

BOTHWELL CASTLE, an ancient and magnificent structure, now in ruins, adjacent to Bothwell, originally built of polished stones of a red color. The ruins lately occupied a space of 234 feet by 99; and one of the towers was an immense height above the Clyde. Bothwell castle once made a figure in Scottish history.

BOTOL TABACOSIMA, or **BOTAL TOBAGOSIMA**, an island in the Chinese sea, south of Formosa, and north of the Bashee islands. It is of such a height, that in clear weather it is visible at the distance of fifteen leagues; but being enveloped in fogs, it generally appears to be of much smaller size. The summit seems crowned with large trees. Some fruits also appear to be cultivated, and villages may be seen here at intervals, but no navigator has described the interior. About a mile off is an uninhabited rocky islet. Long. 117° 12' E., lat. 21° 57' N.

BOTOTOE, in natural history, a name given by the people of the Philippine islands to a very beautiful bird of the parrot kind. It is somewhat smaller than the common parrot, and all over of a fine deep blue color.

BOTRIA, in botany, a genus of plants. Class, pentandria monogynia. General character: cal. bell-shaped perianth, five-toothed: cor. petals, fleshy, recurved at the point: stam. filaments, five: pist. germ. superior: stig. concave: per. a berry, with one seed. Species, only one; climbing shrub, with heart-shaped, villous leaves; and small reddish flowers on axillary peduncles. A native of Africa.

BOTRYCHIUM, in botany, a genus of the class cryptogamia, order filices. Capsules globular,

clustered in a racemelike spike, one-celled, opening from the top to the base. Species, five; *B. lunaria*, is a native of our own country.

BOTRYITES, in natural history, the grape-stone, from *βοτρυς*, a grape, a stone of the gem kind, resembling a branch of young grapes.

BOTRYITES, or **BOTRITES**, a sort of burnt cadmia, found somewhat in the form of a bunch of grapes adhering to the upper parts of furnaces, where the mineral is calcined. It differs from the placites, which is gathered on the lower part of the furnace; though Schroeder gives a different distinction, viz. into botrites, found in the middle of the furnace, placites in the upper, and ostracites in the lowest part.

BOTRYLLUS, in zoology, a name of a genus of the class ascidiæ, order tethydes, family tethyæ, well described by Savigny. The family includes two divisions, simplices and compositæ; to the second of which this genus belongs. Generic character: the common substance gelatinous or cartilaginous, encrusting other bodies, and composed of systems round or elliptical, raised above the common surface, and annular. Animals disposed either in a single series, or in several which are regular and concentric. Branchial orifice simply circular, and without rays; intestinal orifice small, elongated to a point, and enveloped in the border of the central cavity of the system. Several species found on our coasts, of which *B. conglomeratus*, is alcyonium conglomeratum of the Syst. Nat.

BOTRYOCEPHALUS, in zoology, a genus of intestinal worms. The body is soft, elongated, flat, jointed; the suckers consisting of two longitudinal depressions opposite to each other.

BOTRYOID, *adj.* *βοτρυοειδής*, having the form of a bunch of grapes.

The outside is thick set with *botryoid* efflorescencies, or small knobs, yellow, bluish, and purple; all of a shining metallick hue. *Woodward.*

BOTRYOLITE, a brittle and moderately hard mineral, which occurs in maxillary concretions. Color, pearly or grayish yellow. It is composed of 36 silica, 39·5 boracic acid, 13·5 lime, 1 oxide of iron, 6·5 water. It fuses before the blow-pipe into a white glass. It is found in Norway.

BOTRYS, **BOTRUS**, or **BOSTEA**, in ancient geography, a town of Phœnicia, on the Mediterranean, built by Saturn, twelve miles north of by Byblus, and twenty south of Tripolis. It is now almost in ruins, and called Boteron or Botern.

BOTS. See **BOTTS**.

BOTT, } Ang.-Sax. bitan, to bite; a species of small worms in the entrails of horses; answering, perhaps, to the ascarides in human bodies.

Pease and beans are as dank here as a dog, and that is the next way to give poor jades the *botts*.

Shakspeare.

BOTT, among bone-lace weavers, a round cushion of light matter placed on the knee, whereon they weave their lace with bobbins, &c.

BOTT (Thomas), a learned divine born at Derby in 1688. His grandfather was a major during the republic, and Thomas was educated

among the dissenters; but he took orders in the church of England in 1725; and was successively presented to the rectories of Reymerston, Spixworth and Edgefield, in Norfolk. He died at Norwich in 1754, aged sixty-six. He wrote, 1. *The Peace and Happiness of this World the Immediate Design of Christianity*; 2. *A Defence of this*; 3. *A Refutation of the Religion of Nature Delineated*; *An Answer to Vol. I. of Warburton's Divine Legation of Moses*; and several sermons.

BOTTARI (John), a celebrated cardinal, was born at Florence in 1689. He was the patron of learning, and himself contributed to her stores, 1. *Vita di Francesco Sacchetti*, 8vo. 2. *Sculture et Pitture sacre estratte*, &c. 3 vols. fol. 3. *Vocabularia della Crusca*, 6 vols. 4. *De Museo Capitolino*, 3 vols. fol. 5. *Dialoghi sopra tre Arti del Disegno*, 4to. He died in 1775.

BOTTICELLI (Alexander), was born at Florence in 1437, and learned the rudiments of painting under Philip Lippi. He executed several pictures for pope Sixtus IV. and the city of Florence; for which he received large sums; yet died at last in great distress, aged seventy-eight. He was a man of letters. The famous edition of Dante's poem of Hell, printed at Florence by Magna, A. D. 1481, and to which Botticelli undertook to write notes, was intended to have been ornamented with prints, one for each canto; a few of which were designed, if not engraved, by Botticelli. The two first plates only were printed upon the leaves of the book, and for want of a blank space at the head of the first canto, the plate belonging to it is placed at the bottom of the page. Blank spaces are left for all the rest; that as many of them as were finished might be pasted on.

BOTTLE, *v. & n.*

BOTTLED,

BOTTING.

BOTTLE-COMPANION,

BOTTLE-SCREW.

Fr. *bouteille*; Ital. *botiglia*; Span. *botija*. Vossius and Menage derive this word from the Greek *βύττις*. Lye and Serenius from the Ang.-Sax. *bytta*, a butt or cask; a small vessel of leather, glass, or other substance, with a narrow mouth, to contain liquor; sometimes used for the liquor itself.

And when this riotour with sory grace
Hath filled with win his grete *bottles* three,
To his felawes, agen, repairreth he.

Chaucer. Canterbury Tales

Here, in this *bottle*, sayd the sory mayd,

I put the tears of my contrition,
Till to the brim I have it full defrayd:
And in this bag which I behind me don.

I put repentaunce for things past and gon.

Yet is the *bottle* leake and bag so torne,

That all which I put in fals out anon,

And is behinde me troden down of Scorne,

Who mocketh all my paine, and laughs the more I
mourn. *Spenser.*

The shepherd's homely curds,
His cold thin drink out of his leather *bottle*,
Is far beyond a prince's delicates. *Shakspeare.*

Methinks I have a great desire to a *bottle* of hay;
good hay, sweet hay, hath no fellow. *Id.*

Sir, you shall stay, and take the other *bottle*.

Spectator.

When wine is to be *bottled* off, wash your *bottles* immediately before you begin; but be sure not to drain them. *Swift.*

A good butler always breaks off the point of his *bottlescrew* in two days, by trying which is hardest, the point of the screw, or the neck of the *bottle*. *Id.*

Sam, who is a very good *bottle-companion*, has been the diversion of his friends. *Addison.*

Then if thy ale in glass thou wouldst confine,
Let thy clean *bottle* be entirely dry. *King.*

He threw into the enemy's ships earthen *bottles* filled with serpents, which put the crew into disorder. *Arbutnot on Coins.*

In the *bottle* discontent seeks for comfort, cowardice for courage, and bashfulness for confidence. *Johnson.*

BOTTLES, among the ancient Jews, were cags made of goats or other wild beasts' skin, with the hair on the inside, well sewed and pitched together; an aperture in one of the animal's paws serving for the mouth of the vessel.

BOTTLES are now chiefly made of thick coarse glass: though there are likewise bottles of boiled leather made and sold by the case-makers. Fine glass bottles covered with straw or wicker, are called flasks or *bettes*. The quality of the glass has been found to affect the liquor in the bottle. Glass bottles are better for cyder than those of stone. Foul glass bottles are cleansed by sand or small shot; musty bottles, by boiling them. See **GLASS**. Dr. Perceval cautions against the practice of cleansing wine bottles with leaden shot. It frequently happens, he thinks, through inattention, that some of the little pellets are left behind; and when wine or beer is again poured into the bottles, this mineral poison dissolves, and impregnates those liquors with its deleterious qualities. The sweetness which is sometimes perceived in red port wine may arise from this cause, when such an adulteration is neither designed nor suspected. Potash is recommended for cleansing bottles; a small quantity in the water will clean two gross.

BOTTLING, the operation of putting up liquors in corked bottles, to keep, ripen, and improve. The writers on economy give rules concerning the bottling of beer, cyder, &c. Mineral waters are sometimes taken to distant places, well bottled and corked, otherwise they lose both their taste and smell. To preserve them, it is necessary that the bottles be filled up to the mouth, to exclude the air. The cork is also further secured by a cement. Some endeavour to improve their bottled beer, by putting crystals of tartar and wine, or malt spirits; and others, by putting sugar, boiled up with the essence of some herb, and cloves, into each bottle. Cyder requires special precautions in the bottling; being more apt to fly and burst the bottle, than other liquors. The best way is to have the liquor thoroughly fine before it be bottled. For want of this some leave the bottles open a while, or open them after two or three days bottling, to give them vent. If one bottle break through fermentation, it is best to give them all vent, and cork them up again. Mean cyder is apter to break the bottles than rich. Some soak the corks in scalding water, to render them more pliant and serviceable. Another particular to be observed is, to lay the bottles so as that the liquor may always keep the cork wet and swelled. Something also

depends on the place where the bottles are set, which ought be such as exposes them as little as possible to the alterations and impressions of the air: the ground is better for this purpose than a frame; sand better than the bare ground, and a running water, or a spring often changed, best of all. To hasten the ripening of bottled liquors they are sometimes set in a warm place, or even exposed to the sun, when a few days will bring them to maturity. A machine has recently been invented for corking bottles, by which much labor is abridged, and time saved.

BOTTOM, *v. & n.* } Dutch, *bodem*; Germ. }
BOTTOMED, } *boten*; Swed. *botn*. The }
BOTTOMLESS. } lowest part of anything;
the ground under the water; the foundation;
the groundwork; a dale; a valley; a low
ground; the part most remote from the view;
the deepest part; bound; limit; sometimes
used for a ship; metaphorically, the extent of
capacity; concealed, or out of sight. To venture
on the same bottom is to run the same risk
as those who have ventured to embark themselves
or property in the same ship's bottom: to bottom
is to rest, place, or stand upon; to fix, found, or
establish.

With that water that ran so clere,
My face I washe; tho saw I wele
The *botome* ipaved everidele
With gravell, full of stones shene.

Chaucer. Romaunt of the Rose.

For if a man woulde in a bote
(Whiche is without *botome*) rowe,
He must nedes overthrowe. *Gower.*

From Holland, Zealand, and from Flanders won,
By weekly pay, three score twelve bottoms came,
From fifty upward to five hundred ton,
For every use a mariner could name. *Drayton.*

In the purlieus stands a sheep-cote,
West of this place; down in the neighbour *bottom*.
Shakspear.

Is not my sorrow deep, having no *bottom*?
Then be my passions *bottomless* with them. *Id.*
I will fetch off these justices: I do see the *bottom*
of Justice Shallow: how subject we old men are to
lying! *Id.*

Therefore, as you unwind your love for him,
Lest it should ravel, and be good to none,
You must provide to *bottom* it on me. *Id.*

There being prepared a number of *flat-bottomed*
boats to transport the land-forces, under the wing and
protection of the great navy. *Bacon.*

Wickedness may well be compared to a *bottomless*
pit, into which it is easier to keep one's self from
falling, than being fallen, to give one's self any stay
from falling infinitely. *Sidney.*

On a sudden open fly,
With impetuous recoil and jarring sound,
The' infernal doors, and on their hinges grate
Harsh thunder, that the lowest *bottom* shook
Of Erebus. *Milton.*

Him the Almighty Power
Hurled headlong flaming from the ethereal sky
To *bottomless* perdition. *Id.*

He puts to sea upon his own *bottom*; holds the
stern himself; and now, if ever, we may expect new
discoveries. *Norris.*

He spreads his canvas, with his pole he steers,
The freights of sitting ghosts in his thin *bottom* bears.
Dryden.

Shallow brooks that flowed so clear,
The *bottom* did the top appear. *Id.*

They may have something of obscurity, as being *bottomed* upon, and fetched from, the true nature of the things. *Hale.*

Pride has a very strong foundation in the mind; it is *bottomed* upon self love. *Collier.*

The grounds upon which we *bottom* our reasoning, are but a part; something is left out, which should go into the reckoning. *Locke.*

His proposals and arguments should with freedom be examined to the *bottom*, that, if there be any mistake in them, nobody may be misled by his reputation. *Id.*

Action is supposed to be *bottomed* upon principle.

On this supposition my reasonings proceed, and cannot be affected by objections which are far from being built on the same *bottom*. *Id.*

He wrote many things which are not published in his name; and was at the *bottom* of many excellent counsels, in which he did not appear. *Addison.*

On both the shores of that fruitful *bottom* are still to be seen the marks of ancient edifices. *Id. on Italy.*

Aye—when the red swollen stream comes roaring down—

Full many a glorious flower and stately tree
Floats on the ruthless tide, whose unfelt sway
Moves not the mire that stagnates at the *bottom*.

Maturin's Bertram.

BOTTOMRY, *bottomree*, *fœnus nauticum*, in law and commerce, is generally where a person lends money to a merchant, who wants it to traffic, and is to be paid a greater sum at the return of a certain ship, standing to the hazard of the voyage; in this case, though the interest be greater than that allowed by law, it is a species of insurance and not usury. See **INSURANCE**.

BOTTONY. A cross bottony, in heraldry,

terminates at each end in three buds, knots, or buttons, resembling, in some measure, the three-leaved grass; on which account Segoin, in his *Tresor Heraldique*, terms it *croix treffle*. It is the badge of the order of St. Maurice.



BOTTRIGARI (*Hercules*), a person eminently skilled in music, though not a musician, was a man of rank in Bologna, and had the title of Count. He published several controversial pieces on music. He entertained strong prejudices in favor of the ancient music; and attempted to introduce the chromatic genus into practice, but with no better success than Vincencius and others had done. He corrected Gogavino's Latin version of Ptolemy in many instances, to so good purpose, that Dr. Wallis has in general conformed to him, in his translation of it. He also translated into Italian Boetius de Musica, with as much of Plutarch and Macrobius as relates to music; and made annotations upon Aristoxenus, Franchinus, Spataro, Vicentino, Zarlino, Galilei, and almost every musical treatise he could lay his hands on; as appears by the copies which were once his, and are now deposited in many libraries in Italy. His works contain greater proofs of his learning and skill in music, than of his abilities as a writer, his style being remarkably inelegant; nevertheless, he affected the character of a poet; and there is extant a collection of poems by him, in 8vo. printed in 1577. He died in 1609.

BOTTS, or *Bors*, in zoology, a species of short worms, said to be produced and nourished only in the intestines of the horse, the larvæ of the oestrus. See **OESTRUS** and **FARRIERY**.

BOTZEN, a town and district of Austria in the Tyrol, situate on the Eisach, at the influx of the Taffer. It is noted for its wines, and the beauty of its environs. Here are four great fairs, much frequented by Germans and Swiss, a castle, a court of justice, and considerable silk manufactures. The town is the residence of the Austrian governor of the Etschland, of Adige district. The quarter, of which it is the capital, contains 462 square miles, and 27,800 inhabitants. The town itself about 8000. Eighteen miles south-west of Brixen, and twenty-seven north of Trent. Botzen was taken by the French under Buonaparte in March 1797, and retaken in April, by the Austrians under general Laudon.

BOTZENBURG, a town of Germany, in the duchy of Mecklenburg. It had a castle, which was destroyed by the Danes in 1202. It is seated on the Elbe, and the vessels that pass by are obliged to pay a considerable toll,

BOVA, a considerable town of Calabria Ultra, Italy, situated at the southern extremity of the Appennines, and near the sea. It is said to have been founded by the emigrant Albanians, who quitted their country on the death of George Castrioti, generally known by the name of Scanderbeg. Their descendants in this part of Italy still amount to the number of 100,000, and speak the Albanian language. Bova has the title of a county, and a population of about 2300 individuals. It is the see of a bishop, who is suffragan of the archbishop of Reggio, from which it is distant south-east about twenty miles.

BOUATI, in botany, a genus of plants, class hexandria, order digynia. Its generic characters are, *cal.* small three parted perianth: *cor.* three, pointed, concave petals, longer than the calyx: *stam.* six: *pist.* germ superior, compressed, dimpled at its summit: *stig.* two, sessile: *per.* capsule, heart-shaped, sharp edged, dimpled at its summit, bilocular: *seed*, one in each cell. It is a small tree, a native of the East Indies.

BOVATA TERRE, in ancient law writers signifies an oxgate of land, or so much as may be ploughed in a year with one ox; by some reckoned at twenty-five acres, by others at eighteen or twenty; and valued from 13s. to 20s. yearly rent.

BOUCHAIN, a fortified town of France, in the department of the North, and ci-devant province of Hainault. It is divided into two parts by the river Scheldt. It was taken by the French in 1676: and by the allies under the duke of Marlborough in 1711, which was the last military achievement of that great general; but the following year it was retaken by the French. It had also its share of suffering in the late war, being only nine miles west of Valenciennes.

BOUCHARDON (*Edme*), an eminent French sculptor, was born in 1698 at Chaumont. His father was a sculptor and architect, and designing that his son should follow the same profession, sent him to Paris to the school of Coustou the younger. Here he made such progress that he was elected king's pensioner, and sent to Rome

for the further prosecution of his studies. In Rome, his assiduity and consequent improvement were conspicuous. He examined minutely, and copied carefully, the remains of ancient sculpture, and the master-pieces of modern painting. He returned to Paris, and, in the works he was employed to execute in that metropolis, displayed the proficiency he had made by the powers of his own fancy, and the opportunities he had had of forming his taste upon the models of excellence left by his predecessors. In 1736 he was appointed designer to the academy of Belles Lettres; in 1744 he was admitted into the academy of painting; and in two years afterwards he was made professor. He died in 1762, possessed of a considerable fortune, and enjoying a character highly respectable. His works for the decoration of Paris were, the Fountain in the Rue de Grenelle, Fauxbourg St. Germaine, and the equestrian statue of Louis XIV.

BOUCHE or COURT, the privilege of having meat and drink at court scot-free. The word is also written *bowge*, *bouge*, and *budge*. The French long used the phrase, *avoir bouche à la cour*; that is, to have table or diet at court. This privilege was sometimes only extended to bread, beer, and wine: and was anciently used in the houses of noblemen, as well as in the king's court. Thomas earl of Lancaster retained Sir John de Ewre, to serve him with ten men at arms in time of war, allowing them *bouge* of court, with livery of hay and oats, horse shoes and nails.

BOUCHET (John), a French poet and historian who flourished in the sixteenth century. The best of his writings are his *Annals of Aquitaine*, and his *Chaplet des Princes*. He died in 1555.

BOVEY COAL, an inflammable fossil found in England, France, Italy, Switzerland, Germany, Ireland, &c. Its color is brown or brownish-black, and of a laminar structure. It is composed of wood, penetrated by bitumen; and frequently contains pyrites, alum, and vitriol. By distillation it yields an ill-smelling liquor, mixed with volatile alkali and oil, part of which is soluble in alcohol, and part insoluble, being of a mineral nature.

BOUFFLERS (Louis Francis), duke of Boufflers, a peer and marshal of France, was born in 1644. He distinguished himself by his valor and conduct in several sieges and battles, and had the command of the right wing when the French were defeated at the bloody battle of Malplaquet. He also gained extraordinary honor by the defence of Lille in 1708. The siege lasted four months, and when at length obliged to submit, prince Eugene observed to Boufflers: 'I am very vain in having taken Lille, but I should still prefer the glory of having defended it like you.' The king of France rewarded him for this service, by creating him a peer of France, and giving him the reversion of the government of Flanders to his son. He was as distinguished for nobleness of character and munificence as for bravery and military skill, and not only rejected with indignation a proposal to assassinate prince Eugene during the siege of Lille, but threatened to confine the person who had ventured to make the observation. It is related in the continuation of the History of Eng-

land, by Rapin, that when king William took Namur in 1695, he made Boufflers prisoner, in violation of the articles of capitulation. On his remonstrance against this conduct, he was answered that it was in the way of reprisal, because of the French having detained the garrisons of Dix-nude and Deinse in the same manner. 'In that case,' replied the marshal, 'my garrison ought to be arrested, and not I.' 'Sir,' he was answered, 'you are valued at more than 10,000 men.' He died at Fontainebleau in 1711.

BOUFFLERS (Marshal), the son of the duke, is famous for having been the deliverer of Genoa, where he died.

BOUGAINVILLE (Louis Antony de), was born at Paris on the 11th of November, 1729. He was the son of a notary, and descended from an ancient family in Picardy. While at college he was distinguished by an ardent desire for knowledge. A professor one day explaining the phases of the moon, and its various positions, quoted two Latin verses respecting them. Young Bougainville was bold enough to consider them as of an inferior kind; and being challenged to make better, he answered almost instantly, it is said, by four verses far more accurate, and more instructive. On leaving college he was admitted an advocate in the parliament, and enrolled himself in the musqueteers. Chance made him a neighbour to Clairaut and d'Alembert, and he attached himself warmly to these two geometers; he visited them often; and at the age of twenty-five produced the first part of his *Integral Calculus*, to serve as a continuation of De l'Hôpital's *Infinitesimals*. With that candour which was always one of the most striking traits in his character, he declared in his preface, that nothing in the whole work was his own but the arrangement. The committee of the Academy, however, observed, that by clearly explaining the methods of the various geometers, he had made them his own. In 1755 he was made a major, and visiting London as secretary to the French embassy, was elected a fellow of the Royal Society. Next year he accompanied general Montcalm to Canada, with the title of captain of dragoons. Before he embarked he put to press the second part of his *Integral Calculus*, having requested his friend Bezout to read the proof sheets. Immediately on his arrival in America he marched at the head of a detachment amidst ice and snow, and through almost impenetrable forests, to the extremity of lake Sacrament, where he burnt an English flotilla under the guns of the fort which protected it. In 1758 a detachment of 5000 French troops was pursued several days by an army of 20,000 English. Bougainville inspired his fellow-soldiers with resolution to wait for the enemy; they fortified their position in less than twenty-four hours, and compelled the English to fall back with a loss of 6000 men. Bougainville was wounded on this occasion in the head by a musket ball. The French governor despairing, however, of saving the colony, if he did not receive reinforcements, our hero was sent to France to solicit them, and returned with the rank of colonel and the cross of St. Louis. Montcalm placed him at the head of the grenadiers and volunteers, to cover the retreat of the army,

which was forced to fall back on Quebec. He performed this important service with his usual intrepidity and skill. But the death of the general hastened the loss of the colony; and Bougainville returned to France.

He now followed M. Choiseul de Stainville into Germany, where he again signalled himself, and his bravery was rewarded with the gift of two pieces of brass cannon. During the peace that ensued, the favorable situation of the Falkland Islands gave rise to the idea of forming an establishment there, and the French court patronising the undertaking in 1763, Bougainville offered to commence it at his own expense. In concert with two of his relatives he fitted out two ships at St. Maloes, and embarked some families, with whom he reached the islands called the Malouines on April 3d, 1764. They were inhabited; but no violence or injustice attended his occupation of them. An abundant pasturage, fishery, and birds, which at first permitted themselves to be taken with the hand, secured the means of subsistence; but no wood for fuel or erecting houses was to be procured. The foundations of a fort however were laid; and in the centre an obelisk erected, with the hemistich, 'Tibi serviat ultima Thule,' inscribed under a portrait of the French king: another inscription exhibited the line in Horace, 'Conamur tenues grandia.' When these first labors were over, Bougainville returned to France, leaving the government of the colony to one of his relations. Next year he returned with a supply of provisions, and new inhabitants. An excursion to the straits of Magellan procured him wood for the purposes of building, and 10,000 young forest and fruit trees. An alliance was concluded with the Patagonians; most kinds of the grain cultivated in Europe were naturalised, and cultivated with success; the multiplication of the cattle was a matter of certainty, and the number of the inhabitants rapidly increased from 80 to 150. But though these acquisitions did not satisfy the active mind of the founder, they had alarmed the Spaniards, and complaints had been made by them to the French government. Bougainville was therefore ordered to deliver up his possession, and the court of Spain agreed to pay him for his works, and to refund his expenditure. As a farther consolation, the court of France appointed him to make a voyage round the world. The command of the frigate la Boudeuse, and a store-ship, the Etoile, was given him, and Commerçon, the naturalist, and Veron, as astronomer, embarked with him, at his request, to examine the new methods of finding the longitude. This expedition justly places Bougainville in the foremost rank of enterprising seamen. The dreadful weather he encountered rendered all his astronomical attempts useless. Upon his return France was at peace. A wandering and agitated life had now blunted his taste for the mathematics, and for a time he gave himself up to enjoyments which the bustle of his early life had not permitted him to share: but his active mind was soon again employed in the service of his country, and when France declared for America, he successively commanded the French ships Bien-aimé, Languedoc, Guerrier, and Auguste, under

admirals Piquet, D'Estaing, and De Grasse. At the request of D'Estaing he was appointed chef d'escadre, and the same year received the rank of field-marshal. He commanded the van at the memorable battle of the Chesapeake in 1781, and beat off the English van, obtaining the honorable testimony of count de Grasse to his having contributed more than any other person to the victory. On the disastrous 12th of April, when the commander-in-chief was reproached with being more occupied with the safety of his own ship than with that of the squadron, and the squadron with not supporting their commander-in-chief, Bougainville, who commanded the rear-guard, did all that could be expected of him: by a bold manœuvre he saved the Northumberland; and although the Auguste, which he commanded, was one of the most roughly handled of the whole fleet, he collected and conducted to St. Eustatia the remains of the shattered squadron. The peace which secured the independence of America, again restored M. de Bougainville to the pursuit of the sciences. The Academy conferred upon him the title of honorary member. Lagrange, on giving his vote, observed 'To you I was indebted for being received into the Academy, since your works opened to me the career which I pursued.' About this period he conceived the project of tracing the icy regions of the north, and penetrating to the pole. A distinguished astronomer offered to accompany him, and the route was sketched. The French ministry, however, did not accede to his terms, and the Royal Society of London, solicited the use of his plans. He transmitted them immediately, pointing out the route which he would take. Captain Phipps, afterwards Lord Mulgrave, preferred another (one also of Bougainville's suggesting), but could not proceed further than eighty degrees. When a spirit of insubordination broke out in the French navy, and in the Brest fleet in particular, M. de Bougainville, by his reputation, his courage, and his firmness, mixed with the most amiable qualities, seemed to be the only man capable of recalling the seamen to their duty. But his exertions were unavailing; the flames of Jacobinism had spread too far, and he retired from the service in disgust. In 1791 his name was put upon the list of vice-admirals. This distinction redoubled his attachment to his prince, now almost totally abandoned. From the massacres of 1792 he escaped as if by a miracle, and took refuge on his estate in Normandy, where he found his two pieces of cannon, the only recompense which he had received for forty years' service. On the restoration of order he was appointed to the Board of Longitude; but whether he did not think matters sufficiently settled, or the care which it was necessary to take of his fortune prohibited him from leaving his estate, he sent in his resignation, and was succeeded by count Fleurieu. When the Institute was formed, M. de Bougainville was nominated to a seat at the Board of Navigation and Geography. As president of the Class of Sciences, it was his duty to deliver to Napoleon the reports of that department, and he acquitted himself with great dignity. As a senator, his pecuniary circumstances were made perfectly

easy; and although old age was coming on, he possessed all the fire and vivacity of youth. He was still desirous of partaking in some hazardous maritime enterprise; and when his friends mentioned his age, he replied, that Nestor was not altogether useless in an army which boasted such heroes as Achilles, Ajax, and Diomed. Although his temperance and sobriety were great, and strong hopes were entertained of prolonged existence, he died on the 31st of August, 1811, after an illness of ten days.

BOUGAINVILLE'S ISLAND, an island of the South Pacific Ocean, in the sixth degree of south latitude, and 156th of east longitude. A narrow strait separates it on the north from the island of Bouka, and on this side it is very low; other parts contain mountains separated by considerable plains, and covered with wood. The western coast is rocky and dangerous, and the island thinly inhabited.

BOUGE', to bilge or bulge. See **BILGE**. To swell out; something swelling or bellying out.

Which ancor cast, we soone the same forsooke,
And cut it off, for feare lest thereupon
Our shippe should bowge.

Gascoigne.

BOUGEANT (William Hyacinth), a famous Jesuit, who first taught the learned languages at Caen and Nevers, and afterwards settled at the college of Paris, where he employed himself in writing several works, particularly, 1. Curious Observations on all parts of Natural Philosophy, extracted from the best authors; 2. An History of the Wars and Negotiations which preceded the Treaty of Westphalia, &c. He died in 1743.

BOUGH, or } Ang.-Sax. bug-an, to bow.
Bow. } The branch of a tree, so called because it bows or bends from the trunk or stem.

There might men does and roes ysee
And of sqirels full great plentie,
From bow to bow alway leping,

Chaucer. Romaunt of the Rose.

The boisterous winds oft their high bowes do blast.

Wyat.

But now the gray moss marred his rine,
His bared boughes were beaten with stormes;
His toppe was bald and wasted with wormes,
His honour decayed; his branches sere.

Spenser.

Like as the culver, on the bared bough,
Sits mourning for the absence of her mate;
And, in her songs sends many a wishful wov
For his returne that seems to linger late:
So I alone, now left disconsolate,
Mourn to myselfe the absence of my love;
And wandering here and there, all desolate,
Seek with my playnts to match that mournful dove.

Id.

Their lord and patron loud did him proclaim,
And at his feet their laurel boughs did throw.

Faerie Queene.

A vine-labourer finding a bough broken, took a branch of the same bough, and tied it about the place broken.

Sidney.

From the bough
She gave him of that fair enticing fruit.

Milton.

As the dove's flight did guide Æneas, now

May thine conduct me to the golden bough. *Denham.*

Under some favourite myrtle's shady boughs,
They speak their passions in repeated vows.

Roscommon.

See how, on every bough, the birds express,
In their sweet notes, their happiucss.

Dryden.

'Twas all her joy the ripening fruits to tend,
And see the boughs with happy burdens bend. *Pope.*

All abandoned to despair, she sings
Her sorrows through the night; and on the bough
Sole sitting. *Thomson's Seasons.*

Speak to me!

For I have called on thee in the still night,
Startled the slumbering birds from the hush'd boughs
And woke the mountain wolves, and made the caves
Acquainted with thy vainly echoed name
Which answered me—many things answered me—
Spirits and men—but thou wert silent all.

Byron's Manfred.

BOUGHS, GREEN, anciently made a part of the decoration of altars and temples, especially on festival occasions. Oaken boughs were offered to Jupiter; those of laurel to Apollo; of olive to Minerva; myrtle to Venus; ivy to Bacchus; pine to Pan; and cypress to Pluto. Our country youth commemorate the preservation of Charles II. in an oak, after the battle of Worcester, by wearing oak boughs, gilding the apples, &c.

BOUGHT', or } From the Anglo-Saxon,
Bour'. } bugan, to bow, to bend, to turn. Folds or involutions are bouts; a twist; a link; a knot; a curve; a flexure.

His huge long tail wound up in hundred folds,
Whose wreathed boughs whenever he unfolds,
And thick entangled knots adown does slack.

Faerie Queene.

The flexure of the joints is not the same in elephants as in other quadrupeds, but nearer unto those of a man; the *bought* of the fore-legs not directly backward, but laterally, and somewhat inward.

Brown's Vulgar Errors.

Immortal verse,

Such as the melting soul may pierce,
In notes, with many a winding bought
Of linked sweetness, long drawn out. *Milton.*
Bought, the past tense, and past participle of the verb to buy.

Great riches have sold more men than they have bought. *Bacon.*

The chief were those who not for empire fought,
But with their blood their country's safety bought, *Pope.*

BOUGIE; Fr. a wax candle; an instrument that is introduced into the urethra for removing obstructions. Different compositions are used. The old method of making them up was as follows: having spread any quantity of the linen rag with the composition that is chosen for the purpose, cut it into slips from six to ten inches long, and from half an inch to an inch broad; then roll them on a glazed tile or marble into the form of a wax candle; and as the end of the bougie that is to be entered first into the urethra should be somewhat smaller than the rest, cut the slips a little tapering. When the bougies are rolled up, that side must be outward on which the plaster is spread. Bougies are likewise formed of catgut, which are well calculated to pass through an aperture which takes a winding sort of direction, a case in which the common bougie very frequently fails. M. Darn and others attributed the action of the bougies to the composition they made use of in forming them, but, apparently, as much of their efficacy is owing to the compression they make on the affected part, as to any other principle; and, as

bougies of very different compositions succeed equally well, in curing the same disorders in the urethra, it is plain that they do not act by means of any peculiar qualities in their composition. Catgut involved in elastic gum makes the best bougie; the gum defends the catgut from the moisture of the urethra, and renders the bougie pliant in all its parts, whilst a very suitable degree of firmness results from the intermixture of the catgut. The caustic bougie differs from the ordinary one in having a thin roll of caustic in its middle, which destroys the stricture, or any part it comes in contact with. The practice of keeping the bougie in for several hours together has been relinquished of late years, on account of the injury supposed to be done by it to the muscoli acceleratores. It is now the practice to wear a bougie only for a few minutes at a time.

BOUGUER (John), a good French mathematician, and professor royal of hydrography, was author of a Complete Treatise on Navigation. He died in 1713.

BOUGUER (Peter), a celebrated French mathematician born at Croisic in 1698, was the son of the professor. He learned mathematics from his father, and became a proficient in the science while he was yet a child. Being sent early to the Jesuits' college at Vannes, he instructed the regent in mathematics, at eleven years of age. At thirteen he had a public contest with a professor of mathematics, upon an erroneous proposition he had advanced, and gained so complete a victory over him that he left the country. At fifteen, upon his father's death, he was, after a public examination, appointed to succeed him in his professorship. In 1727 he obtained the prize given by the Academy of Sciences for the best way of masting ships; in 1729 another for the best manner of observing at sea the height of the stars; and in 1731 a third prize for the most advantageous way of observing the declination of the magnetic needle. In 1730 he was removed to Havre. In 1731 he was appointed geometrist to the Academy, and in 1735 pensioner-astronomer: when he was also sent along with Messrs. Godin, Condamine, and Jussieu, on the commission to South America, to determine the measure of the degrees of the meridian and the figure of the earth. In this laborious business, of ten years' duration, chiefly among the lofty Cordillera mountains, he determined several other new points, besides the main object; particularly respecting, 1. the expansion and contraction of metals, &c. by heat and cold; 2. the refraction of the atmosphere by the tops of the mountains; 3. the density of the air at different heights; 4. the effect of the mountains upon the plummet; 5. a method of rectifying the errors committed by navigators in determining their route; and 6. a new construction of the log for measuring a ship's way, &c. He died 15th August, 1758, aged sixty. His chief works are, 1. The Figure of the Earth, determined by the Observations made in South America, 1749, 4to. 2. Treatise on Navigation and Pilotage, 1752, 4to. abridged by La Caille, in one vol. 8vo. 1768. 3. Treatise on Ships, 4to. 1756; and 4. On the Gradation of Light, 1729 and 1760, 4to. He wrote also a vast number of important papers,

inserted in the Memoirs of the Academy, of which Dr. Hutton gives a complete list in his Mathematical and Philosophical Dictionary, pp. 219, 220.

BOUHOURS (Dominic), a celebrated French critic, born at Paris 1628. He was entered into the society of Jesuits at the age of sixteen; and was appointed to read lectures upon polite literature in the college of Clermont at Paris, where he had studied: but was so incessantly attacked with the head-ache, that he could not pursue the destined task. He afterwards undertook the education of two sons of the düké of Longueville, which he discharged with great applause. The duke had such a regard for Bouhours, that he wished to die in his arms; and the Account of the pious christian death of this great personage was the first work which Bouhours gave to the public. He was sent to Dunkirk to the popish refugees from England; and in the midst of his missionary occupations found means to compose and publish books. Among these were *Entretiens d'Ariste et d'Eugene*, *Dialogues between Aristus and Eugenius*; a critical work concerning the French language. It was printed five times at Paris, twice at Grenoble, at Lyons, Brussels, Amsterdam, Leyden, &c. and embroiled him in quarrels with a great many censors; with Menage in particular, who however lived in friendship with him both before and after. This piece recommended Bouhours so effectually to the celebrated minister, Colbert, that he trusted him with the education of his son, the marquis of Segnelai. He wrote afterwards several other works, the chief of which are, 1. *Remarks and Doubts upon the French Language*; 2. *Dialogues upon the Art of thinking well in Works of Genius*; 3. *The Life of St. Ignatius*; 4. *The Art of Pleasing in Conversation*; 5. *The Life of St. Francis Xavier, Apostle of the Indies and of Japan*. This last work was translated from the French into English by Mr. Dryden, and published at London in 1688, with a dedication prefixed to the queen of James II.

BOVILLÆ; from *bos*, an ox, because cattle were supposed subject to it; the scientific name for the measles.

BOUILLE (Marquis de), was a lieutenant-general in the army of Louis XVI. and knight of the order of St. Esprit. He was born in Auvergne, and connected by birth with the family of La Fayette. During the American war he commanded in the French Windward Islands, and returning to Europe, was made governor of Mentz at about the breaking out of the Revolution. Here he first distinguished himself as a staunch royalist, and drew on himself in consequence the marked displeasure of the Jacobins. On the king's unfortunate flight to Varennes, Bouillé advanced with a strong force to receive him, but from some mismanagement was too late: upon finding that the royal party was captured, he addressed a letter to the National Assembly from Luxembourg, menacing them with summary vengeance should any attempt be made on the life of the king. This threat however, only served to accelerate the event, and Bouillé himself was sentenced to death *par contumace*. Bouille, on the death of his unhappy prince, proceeded to

Vienna, and afterwards to Sweden; he also served for a while in the emigrant army under the prince of Condé, but on the final failure of the royal cause retired to England, where in 1797 he published his *Memoirs of the Revolution*, 8vo. He died in London, Nov. 14th, 1824.

BOUILLON, a duchy of the Netherlands, situated between the grand duchy of Luxembourg and the principality of Liege. It lies in the woody and mountainous tract called the Ardennes, to the department of which name it for the most part belonged while in the French empire, is about eighteen miles long, and nine broad, and comprises the towns and villages of Bouillon, Miruart, St. Hubert, Rochefort, Logne, and Hiergues. Though so small a state it has been at different times the subject of much litigation. Godfrey, general of the first crusade, and king of Jerusalem, mortgaged it when a principality, to the bishopric of Liege, in the year 1096, for the sum of 1500 silver marks, on condition that, if he returned, the estate was to be restored; otherwise to remain attached to the diocese. He died in the Holy Land without issue, so that his estate remained in the possession of the see of Liege until 1483, when it was ceded to the count of Mark. Charles V., however, restored it to its former owners. The French family of La Tour d'Auvergne, descendants of the count of Mark, brought forward at different periods pretensions to the duchy, which they relinquished in 1641, on receiving an indemnity of £15,000 sterling. But the bishop of Liege having taken part against France in the war of 1672, Louis XIV. put the family of La Tour d'Auvergne in possession. The title of prince of Bouillon was therefore assumed in 1792, with the consent of his Majesty, by Philip d'Auvergne, captain in the British navy, and he continued to bear it till his death, which happened in 1816. The congress, which met at Vienna in 1815, appointed commissioners to investigate the comparative claims of this nobleman and prince Charles of Rohan. They decided in favor of the latter, who now possesses it.

BOUILLON, the chief town in the duchy, is situated in a hilly district, near the junction of the Semois with the Maese. It contains a population of about 2000 individuals, and has a castle standing upon a high rock. The French took it so long ago as 1676. In 1794 the Austrian general Beaulieu took the town after an obstinate resistance, and compelled a party of French troops to take refuge in the castle; but on the approach of a French army, he was obliged to retreat in the direction of Namur. Bouillon is distant from Namur about fifty miles towards the south-east.

BOUILLON, in the menage, a lump or excrescence of flesh, that grows either upon or just by the frush, insomuch that the frush shoots out like a lump of flesh, and makes the horse halt; and this is called the flesh blowing upon the frush.

BOUIN, an island of France, off the coast of Brittany, in a bay formed by the shores of that province and those of Poitou. It is separated from the coast of Brittany by a narrow channel, and included in the department of Vendec. The inhabitants are chiefly employed in fishing and

making salt. It contains a small town of the same name.

BOVIUM, in ancient geography, a town of the Silures, in Britain, fifteen miles south of Isca Silurum, or Caer-leon, in Monmouthshire, now called Cowbridge, or according to Baudiand, Bangor in Caernarvonshire.

BOVIUS (Thomas), one of those empirics that rose in Italy about the middle of the sixteenth century, when the proper rules of philosophising were unknown, when the boundaries of science and quackery were undefined, and when men, instead of consulting nature, and learning her secrets from experiment, pretended to derive their knowledge from the efficacy of a charm, or the intercourse of a familiar spirit. He had a tutelar genius which he called Zephyriel. He contrived a preparation of mercury and gold dissolved in aqua regia, that he called Hercules; and this Hercules was an overmatch for plague, pestilence, and many other giant distempers. He cured epilepsy with antimony, and suppressed menses with bellebore. He performed an exploit upon a patient as great as any of the twelve labors, expelling a tape-worm from his body that measured fifty yards in length. He prepared aurum potable, with which among other nostrums he restored to health no less than 7000 patients. He entertained a great contempt for all regular physicians, as probably unable to use so quick despatch as himself; and, like Dr. Sangrado, took every opportunity of reproaching their practice and extolling his own. He was, however, more scrupulous in the period and method of bleeding than the aforesaid eminent practitioner, as he believed that a knowledge of astrology was necessary for performing this operation, and that it could be resorted to with success only in certain aspects of the planets. As his life was a struggle against what he thought the ignorance and obstinacy of the professors of the medical art, so his works are filled with satire and abuse. The titles they bear, which are the following, are a sufficient indication of the nature of their contents: *Flagello contra de Medici comuni detti Razionali*; *Fulmine contro de Medici putatitii Razionali*; *Confusione de Medici sospisti de Claudio Gelli*. This 'whip and thunder-bolt' for the doctors have now lost their terrors, and our quacks in the present day are more dreadful to their patients than their opponents.

BOVIS, in entomology, a species of pediculus, with which cattle are infested. Eight transverse ferruginous lines on the abdomen; also a species of oestrus, the wings of which are brown, the abdomen black, white at the base, and fulvous at the tip.

BOUJEIAH, or **BUGIA**, a considerable fortified sea-port in the eastern part of Algiers, situated on the declivity of a mountain, and upon the ruins of a large city, probably the ancient Saldo. A castle, on the summit of a hill, commands the town and harbour, besides which there are two others built at the lower part of the hill. Breaches yet appear in the walls, which were made by Sir Edward Spragg, in 1671, when he destroyed seven vessels in this harbour. Here is a small iron manufactory, and an export trade in oil and wax. Eighty miles east from Algiers.

BOUKA, or Lord Anson's Island, an island in the South Pacific Ocean, separated from Bougainville's Island by a narrow strait. It rises inland to a considerable altitude, and is covered with wood; but has near the sea extensive plantations of cocoa trees. The expedition in search of La Perouse visited this island, and the natives are described as being of a middle stature, strong and active; their color nearly black, their hair on their heads thick and curled, but carefully removed from every other part of the body. Their heads large; forehead, face, and nose, flat, and chin prominent. Their ears were loaded and greatly extended with large rings made of shells. Some had their bodies streaked, and all had a cord or bandage tied round the waist several times. Bracelets formed of the fibres of the cocoa-nut were common. But little clothing was seen on any of them. They were very fond of brisk and noisy music. Their canoes were ingeniously formed, and capable of carrying forty or fifty men each, and they were armed with bows and arrows, which they used with great skill. They also seemed well acquainted with barter, and most valued nails and scarlet cloth. The northern point of this island is situated in about five degrees of south latitude, and in the 155th degree of east longitude.

BOULAINVILLIERS (Henry de), Lord of St. Saire, and an eminent French writer, was descended from a very ancient and noble family, and born at St. Saire in 1658. His education was among the fathers of the oratory; where he manifested from his infancy those uncommon abilities for which he was afterwards distinguished. He applied himself principally to history; in which his performances are numerous and considerable. He was author of a History of the Arabians; Fourteen Letters upon the Ancient Parliaments of France; a History of France to the Reign of Charles VIII.; the State of France, with Historical Memoirs concerning the Ancient Government of that Monarchy to the time of Hugh Capet; 'written,' says M. Montesquieu, 'with a simplicity and honest freedom worthy of that ancient family from which their author was descended.' He died at Paris in 1722; and after his death was published his Life of Mahomet.

BOULANGER (John), a French engraver, who flourished towards the end of the seventeenth century. He adopted a manner, which, though not original, he greatly improved: He finished the faces, hands, and all the naked parts of his figures, very neatly with dots instead of strokes, or strokes and dots. The effect is by no means unpleasing. This style of engraving has been since carried to its greatest perfection in England. His draperies are heavy, and the folds not well marked. However, his best prints possess much merit, and are deservedly held in esteem.

BOULANGER (Nicholas Anthony), a very singular Frenchman, was born at Paris in 1722, and died there in 1759, aged only thirty-seven. He is said to have come out of the college of Beauvais almost as ignorant as he had entered into it; but struggling hard against his unaptness to learn, he at last overcame it. At seventeen he began to study mathematics and architecture; and, in three or

four years, made such progress as to accompany the baron of Thiers to the army in quality of engineer. Afterwards he had the supervision of the highways and bridges; and he executed several public works in Champagne, Burgundy, and Lorraine. His works are: 1. *Recherches sur l'origine du Despotisme Oriental*, 2 vols. 12mo.; a very bold work; but not so bold and licentious as, 2., *L'Antiquité dévoilée*, 3 vols. 12mo. This was posthumous. 3. He furnished to the *Encyclopædia* the articles *Deluge*, *Corvée*, *Société*, and *Guebres*, *Hebrew Language*, and *Political Economy*.

BOULAY, or **BULÆUS** (Cæsar Egasse du), was born at St. Ellier in France, and became professor of humanity at the college of Navarre, rector, and historiographer of the University of Paris. He died in 1768, after having published several works. The principal of them are: A History of the University of Paris, in Latin, 6 vols. folio; and the *Treasure of Roman Antiquities*, in 1 vol. folio.

BOULETTE, in the menage, an epithet of a horse, when the fetlock bends forward out of its natural position, through violent riding, or by being too short jointed.

BOULLONGNE (Bon de), a painter of eminence, born at Paris in 1649. From his father he learned the first principles of the art; but went to Rome to perfect himself from the works of the best masters. He abode in Italy five years. He excelled in history and portrait. His talents for copying the pictures of the great Italian painters were very extraordinary, so that he frequently deceived the best judges. He died at Paris in 1717, aged sixty-eight.

BOULLONGNE (Lewis de), was born at Paris in 1654, was the younger brother of Bon, and, like him, learned from his father the first principles of painting, and afterwards went to Rome to complete his studies. His works, on his return, were so much esteemed, that Louis XIV. made him knight of St. Michael, appointed him his principal painter, allowed him several pensions, and raised him to the rank of nobility. He embellished the church of the Invalids, the chapel of Versailles, &c. He chiefly excelled in history and allegory. He died at Paris in 1734, aged eighty.

BOULOGNE, a sea-port of France, in the department of the Pas de Calais, Picardy. It was the capital of the ci-devant government of Boulonnais, and is divided into two parts, the Upper and Lower; the latter being frequently called *Boulogne-sur-Mer*, as lying near the shore. The former is situated on an eminence. The Lower town is the larger and more populous; but the harbour has been of late nearly choked up with sand; and, though considerable exertions have been made to improve it, only small vessels can enter. Ships of war either anchor in the road, or off the port of St. Jean, a few miles further north. The trade, however, is considerable in fresh and salt fish, especially herrings and mackerel; also in coal, salt, fresh and salted butter, soap, and earthenware; as well as in linen and woollen stuffs manufactured in the town. Great part of our Champagne and Burgundy sent to England passes through this port. Boulogne was the see

of a bishop before the revolution, including 277 parishes; but has since been joined to that of Arras. A late French account states the number of inhabitants at 12,700; among which it is estimated that about 3000 English are included. It is about 154 miles from Paris, thirty from New Romney in Kent, and twenty-two south of Calais. It is generally preferred to the former port, for the return passage across the channel to Dover. In the neighbourhood is a chalybeate spring called the Fontaine de Fer.

BOULTER (Hugh), D.D., was born in or near London, of reputable and wealthy parents. Before the Revolution he was admitted a commoner of Christ Church in Oxford. Some time after he was chosen a demy of Magdalen college, at the same election with Mr. Addison and Dr. Wilcox. From the merit and learning of the persons elected, this was commonly called by Dr. Hough, president of the college, the golden election. He was invited to London by Sir Charles Hodges, principal secretary of state in 1700, who made him his chaplain, and recommended him to Dr. Tenison, archbishop of Canterbury. By the influence of the earl of Sunderland he was promoted to the parsonage of St. Olave in Southwark, and the archdeaconry of Surrey; where he continued discharging faithfully his pastoral office, till he was recommended to attend king George I. as his chaplain, when he went to Hanover in 1719. He taught prince Frederick the English language, and by his conduct so won the king's favor that he promoted him to be dean of Christ Church, and bishop of Bristol. Five years afterwards he received a letter from the secretary of state, acquainting him that the king had nominated him archbishop of Armagh and primate of Ireland. This honor he would gladly have declined; and desired the secretary to use his good offices with his majesty to excuse him from accepting it. Ireland happened to be at this juncture in a great flame, occasioned by Wood's ruinous project; and the ministry thought that the bishop would greatly contribute to quench it by his judgment, moderation, and address. The king therefore laid his absolute commands upon him; to which he at last submitted. When he had taken possession of the primacy, he began to consider that country, in which his lot was cast for life, as his own; and to promote its true interest with the greatest zeal and assiduity. Accordingly, in innumerable instances, he exerted himself in the noblest acts of beneficence and public spirit. In seasons of the greatest scarcity he was more than once instrumental in preventing a famine. On one of these occasions he distributed vast quantities of corn throughout the kingdom, for which the House of Commons passed a vote of public thanks; and at another time 2500 persons were fed at the poor-house in Dublin every morning, and as many every evening, for a considerable time together, mostly at the primate's expense. When schemes were proposed for the advantage of the country, he encouraged and promoted them not only with his counsel but his purse. He had great compassion for the poor clergy of his diocese, who were disabled from giving their children a proper education; and he maintained

several of the children of such in the university. He erected four houses at Drogheda for the reception of clergymen's widows, and purchased an estate for the endowment of them. His charities for augmenting small livings and buying glebes amounted to upwards of £30,000, besides what he devised by will for the like purposes in England. In short, the instances he gave of his generosity, benevolence, virtue, piety, and wisdom, are almost innumerable; and the history of his life is his noblest panegyric. This excellent prelate died at London, on the 2d of June 1742, and was interred in Westminster Abbey, where a beautiful monument is erected to his memory.

BOULTINE, in architecture, a convex moulding, of one fourth of a circle; placed below the plinth in the Tuscan and Doric capital.

BOULTON (Matthew), the celebrated manufacturer and engineer of Soho, near Birmingham, was born at the latter place the 14th of September 1728, and educated at the neighbouring grammar school of Deritend. He was early called into life upon the death of his father, which took place in 1745. Inheriting an ample fortune, he devoted it throughout his career of business to the most liberal and scientific modes of accomplishing the various manufactures in which he engaged. He first attempted a new mode of in-laying steel; and soon obtained such a demand for the products of his manufactory, which were principally exported, that his articles of this kind were not uncommonly re-imported for domestic use.

In 1762 he purchased the then barren heath of Soho, and transferred thither his establishment at an expense of £10,000. At about the same time he engaged in a new method of copying oil paintings, and accomplished them with such great accuracy, by means of a mechanical process invented by a Mr. Egginton, that connoisseurs would frequently mistake the copy for an original. He was also now employed in the imitation of ormolu. In 1762 he first erected a steam-engine, upon the imperfect construction of Savary; but quickly requiring a more powerful first mover, gladly adopted the improvements of Mr. Watt of Glasgow, who had obtained a patent for them in 1769, the privileges of which were extended in 1775, by an act of parliament, to a term of twenty-five years. Mr. Boulton soon induced that gentleman to remove to Birmingham, and commenced a partnership with him in business, for the manufactory of steam-engines. Their execution of them, it is well known, kept pace so well with the advances of science, and the public demand, that the Soho engines were in full request after the expiration of the term of the legal privilege. Principally for the purpose of carrying on this manufactory with greater convenience, the proprietors established an iron-foundry of their own at Smethwick.

Mr. Boulton, in 1785, was made a Fellow of the Royal Society. Three years after, he turned his attention to the improvement of our public coinage, and erected very extensive and complete machinery for the purpose: the coins, it is said, could not be imitated by any single artist for their nominal value; each of the stamps coining, with the attendance of a little boy only,

about eighty pieces in a minute. The preparatory operation of laminating and cutting out the metal, was performed in an adjoining room; and all personal communication between the workmen employed rendered unnecessary, by the conveyance of the work by machinery, from one part of the establishment to another. At this mint, a coinage of silver was executed for the Sierra Leone Company, and another of copper for the East Indies, besides the pence and halfpence at present in circulation throughout England, together with a large quantity of money of all kinds for Russia. The emperor Paul, in acknowledgment of his skill with regard to the last of these undertakings, presented him with a valuable collection of medals and minerals.

In 1797 Mr. Boulton made some ingenious improvements in the application of what has been called Montgolfier's hydraulic ram. Daniel Bernouilli had demonstrated, in the beginning of the last century, that water flowing through a pipe, and arriving at a part in which the pipe is suddenly contracted, would have its velocity at first very greatly increased; and Mr. Whitehurst, in 1792, had set up at Oulton, in Cheshire, an air-vessel, communicating with a waterpipe by a valve, which was forced open by the pressure or rather impulse of the water, its passage through the pipe being suddenly stopped by turning a cock, as in the ordinary course of domestic economy; and although the pipe through which the water was forced up, was of moderate height, the air-vessel, which was at first made of lead, was soon burst by the momentous force. Boulton now added to it a number of modifications, which the reader will find in the ninth volume of the *Repertory of Arts*, p. 145.

This ingenious and worthy man having long been at the head of that important class of scientific manufacturers, among whom he was born, died, after a protracted illness, at Handsworth, near Soho, 24th August, 1809, and was attended to his grave by 600 workmen, each of whom had a silver medal presented to him on the mournful occasion. He left an only son as his successor.

BOULUKE, in the military orders of the Turks, a body of the janissaries, with an officer in the place of a colonel at their head, sent upon some particular enterprise. They are selected out of the body, and, as soon as the business is over, are received again into their former companies.

BOUM, in ancient geography, a town in Ethiopia, beyond Egypt, on the west side of the Nile.

BOUM SOLIS STABULA, in ancient geography, the territory of Mylæ, a peninsula on the east coast of Sicily, north of Syracuse; remarkable for its fertility and rich pastures; whence arose the fable of the oxen of the sun feeding there. Pliny and Seneca say, that something like dung is thrown out on the coast of Mylæ and Messina, which gave rise to the fable of the oxen of the sun being stalled there; and the inhabitants still affirm the same thing.

BOUNCE, *v. & n.* } A word formed from the
BOUNCING, } sound, says Skinner. Per-
BOUNCER. } haps from bound, to fly

back, to be struck back, as a ball; a quick sound; a rapid motion, with noise returning like an echo upon the ear; to fly against any thing with great force so as to rebound; to make a sudden leap or explosion; to be bold; to boast, to bully. A bouncer is a boaster beyond the truth.

They snuf, they snort, they *bounce*, they rage, they *rore*,

That all the sea, disturbed with their traine,
 Doth frie with some above the surges hore;
 Such was between these two the troublesome uprore.

Spenser.

Yet still he bet and *bounst* upon the dore,
 And thundred strokes thereon so hideouslie,
 That all the peece he shaked from the flore;
 And filled all the house with feare and great uprore.

Id.

What cannoneer begot this lusty blood?
 He speaks plain cannon fire, and smoke, and *bounce*;
 He gives the bastinado with his tongue. *Shakspeare.*

The fright awakened Arcite with a start,
 Against his bosom *bounced* his heaving heart. *Dryden.*

High nonsense is like beer in a bottle, which has,
 in reality, no strength and spirit, but frets and flies,
 and *bounces*, and imitates the passions of a much
 nobler liquor. *Addison.*

Just as I was putting out my light, another *bounces*
 as hard as he can knock. *Swift.*

Two hazel-nuts I threw into the flame,
 And to each nut I gave a sweetheart's name;
 This with the loudest *bounce* me sore amazed,
 That in a flame of brightest colour blazed. *Gay.*

BOUND, *v. & n.* } From the Fr. *bondir*.

BOUNDING STONE. } To be struck back; to
 bound; to rebound; to leap; jump; to rise
 suddenly and swiftly upwards; to rise by con-
 cussion; repercussion.

Do but note a wild and wanton herd,
 Or race of youthful and unhandled colts,
 Fetching mad *bounds*, bellowing and neighing loud.

Shakspeare.

Mark then a *bounding* valour in our English,
 That being dead, like to the bullets grazing,
 Breaks out into a second course of mischief. *Id.*

Due entrance he disdained, and in contempt
 At one slight *bound* high overleaped all bound
 Of hill or highest wall, and sheer within
 Lights on his feet. *Milton's Paradise Lost.*

I am past a boy;
 A sceptre is but a plaything—and a globe
 A bigger *bounding-stone*. *Dryden.*

Torrismond appeared,
 Gave me his hand, and led me lightly o'er,
 Leaping and *bounding* on the billows' heads. *Id.*

These inward disgusts are but the first *bound* of this
 ball of contention. *Decay of Piety.*

Before his lord the ready spaniel *bounds*;
 Panting with hope, he tries the furrowed grounds.

Pope.

Warbling to the varied strain, advance
 Two sprightly youths, to form the *bounding* dance. *Id.*

When sudden through the woods a *bounding* stag
 Rushed headlong down, and plunged amidst the
 river. *Rowe.*

The horses started with a sudden *bound*,
 And flung the reins and chariot to the ground.

Addison.

Dexterous he 'scapes the coach with nimble *bounds*,
 Whilst every honest tongue—Stop thief resounds. *Gay.*

Thick around
 Thunders the sport of those who with a gun
 And dog, impatient *bounding* at the shot,
 Worse than the season, desolate the fields. *Thomson.*

All, all, the storm
Devoured; and now, o'er his late envied fortune
The dolphin's *bound*, and watery mountain's roar
Triumphant in his ruin. *Young's Revenge.*

BOUND', v. & n. } To bound is formed
BOUND'ARY, } upon the past tense
BOUND'EN, } and past participle of
BOUND'ER, } the verb to bind; to
BOUND'LESS, } limit; to terminate; to
BOUND'LESSNESS. } restrict; to circum-
scribe: metaphorically, to lay under obligation.

And with his wif he maketh feste and chere,
And telleth hire that chaffare is so dere,
That nedes must he make a chevisance,
For that he was *bonde* in a recognizance;
To payen twenty thousand sheldes, anon,
For which this marchant is to Paris gone
To borwe, of certain frendes that he hadde,
A certain frankes, and some with him he ladde.

Chaucer. Canterbury Tales.

Three hundred foxes toke Sampson, for ire,
And all hir tayles he togeder *bound*,
And set the foxes tayles all on fire;
For he in every tayle had knit a bond,
And they brent all the corners in that lond,
And all hir oliveres, and vines eke,
A thousand men he slaw, eke with his hond,
And had no weapon but an asses cheke. *Id.*

And as these heavens still by degrees arise
Until they come to their first mover's *bound*,
That in his mightie compass doth comprize
And carrie all the rest with him around. *Spenser.*

His be that care, whom most it doth concern,
Said he; but whither with such hasty flight
Art thou now *bound*? for well might I discern
Great cause, that carries thee so swift and light.
Id. Faerie Queene.

Hereafter, in a better world than this,
I shall desire more love and knowledge of you.—
I rest much *bounden* to you: fare you well.
Shakespeare.

Take but degree away,
The *bounden* waters
Would lift their bosoms higher than the shores,
And make a sop of all this solid globe. *Id.*

We also most humbly besought him to accept of us
as his true servants, by as just a right as ever men on
earth were *bounden*. *Bacon.*

Princes are not *bound* to communicate all matters
with all counsellors, but may extract and select. *Id.*

A man may plead not guilty, and yet tell no lie;
for by the law no man is *bound* to accuse himself.

Selden.

Illimitable ocean! without *bound*,
Without dimension; where length, breadth, and
height,

And time, and place, are lost. *Milton.*

Stronger and fiercer by restraint he roars,
And knows no *bound*, but makes his power his shores.

Denham.

They summoned the governor to deliver it to them,
or else they would not leave one stone upon another.
To which the governor made no other reply, than
that he was not *bound* to repair it; but, however, he
would, by God's help, keep the ground afterwards.

Clarendon.

Sensation and reflection are the *boundaries* of our
thoughts; beyond which the mind, whatever efforts
it would make, is not able to advance. *Locke.*

God has corrected the *boundlessness* of his voluptuous
desires, by stinting his capacities. *South.*

Kings and priests are in a manner *bound*
For reverence sake to be close hypocrites. *Dryden.*

Though we make duration *boundless* as it is, we
cannot extend it beyond all being. God fills eternity,
and it is hard to find a reason why any one should
doubt that he fills immensity. *Locke.*

Some guide the course of wandering orbs on high,
Or roll the planets through the *boundless* sky. *Pope.*

Majestic woods of every vigorous green,
Stage above stage, high waving over the hills,
Or to the far horizon wide diffused
A *boundless* deep immensity of shade.

Thomson's Seasons.

Hail social life! into thy pleasing *bounds*
Again I come to pay the common stock,
My share of service, and in glad return
To taste the comforts and protected joys. *Id.*

Within these woods I reign alone,
The *boundless* forest is my own. *Gay.*

BOUN'TY, } Fr. *bonté*; Ital. *bontà*;
BOUN'TEOUS, } Span. *bondad*; Lat. *boni-*
BOUN'TEOUSLY, } tas. Generosity, liberal-
BOUN'TEOUSNESS, } ity, munificence; goodness,
BOUN'TIFUL, } virtue; largely; in a libe-
BOUN'TIFULLY, } ral manner. It seems dis-
BOUN'TIFULNESS, } tinguished from charity, as
BOUN'THEAD. } a present from an alms.

Bountie cometh all of God, not of the stren
Of which they ben ygendred and ybore.

I trust in Goddes *bountee*; and therefore
My marriage, and min estat, and rest,
I him betake; he may don as him lest.

Chaucer's Canterbury Tales.

There thou them placest in a paradise
Of all delight and joyous happy rest,
Where they doe feede on nectar heavenly-wise,
With Hercules and Hebe, and the rest
Of Venus' darlings through her *bountie* blest. *Spenser.*

This goodly frame of temperance,
Formerly grounded, and fast settled
On firm foundation of true *bountifullness*. *Faerie Queene.*

How shall frail pen, with fear disparaged,
Conceive such sov'reign glory, and great *bountihood*? *Id.*

And now thy alms is given,
And thy poor starveling *bountifully* fed. *Dowse.*

It is affirmed, that it never raineth in Egypt; the
river *bountifully* requiting it in its inundation.

Brown's Vulgar Errors.

We do not so far magnify her exceeding *bounty*, as
to affirm, that she bringeth into the world the sons of
men, adorned with gorgeous attire. *Hooker.*

If you knew to whom you show this honor,
I know you would be prouder of the work,
Than customary *bounty* can enforce you. *Shakespeare.*

Every one,
According to the gift which *bounteous* nature
Hath in him closed. *Id.*

Such moderation with thy *bounty* join,
That thou mayest nothing give that is not thine.
Denham.

Though in heaven the trees
Of life ambrosial fruitage bear, and vines
Yield nectar; though from off the boughs each morn
We brush mellifluous dews, and find the ground
Covered with pearly grain; yet God hath here
Varied his *bounty* so with new delights,
As may compare with heaven; and to taste
Think not I shall be nice. *Milton.*

If you will be rich, you must live frugal; if you
will be popular, you must be *bountiful*. *Taylor.*

Tell a miser of *bounty* to a friend, or mercy to the
poor, and he will not understand it. *South.*

Those godlike men, to wanting virtue kind,
Bounty well placed, preferred, and well designed,
To all their titles. *Dryden.*

He *bounteously* bestowed unenvied good
On me.

Id.

Think not the good,
The gentle deeds of mercy thou hast done,
Shall die forgotten all; the poor, the prisoner,
The fatherless, the friendless, and the widow,
Who daily own the *bounty* of thy hand,
Shall cry to Heaven, and pull a blessing on thee.

Rowe's Jane Shore.

The gods in *bounty* work up storms about us,
That give mankind occasion to exert
Their hidden strength, and throw out into practice
Virtues that shun the day, and lie concealed
In the smooth seasons, and the calms of life.

Addison's Cato.

Hence! from the *bounteous* walks
Of flowery spring, ye sordid sons of earth,
Hard and unfeeling of another's woe,
Or only lavish to yourselves.

Thomson.

The generous pride of virtue
Disdains to weigh too nicely the returns
Her *bounty* meets with;—like the liberal gods,
From her own gracious nature she bestows
Nor stoops to ask reward.

Id. Coriolanus.

Whence can such wondrous *bounty* spring
To such a vain and worthless thing.

Rowe.

BOUNTY, in commerce, a premium paid by government to the exporters of certain commodities, as sail cloth, gold and silver lace, silk-stockings, fish, corn, &c. See NAVIGATION ACT.

BOUNTY OF QUEEN ANNE, for augmenting poor livings under £50 per annum, consists of the produce of the first fruits and tenths, after the charges and pensions payable out of the same are defrayed. A corporation for management of the same was settled, &c. in 1704. See AUGMENTATION.

BOURBON (Nicholas), a famous Latin poet in the sixteenth century, was a native of Vandœuvre near Langres, and the son of a wealthy smith. Margaret de Valois appointed him preceptor to her daughter Jane d'Albret of Navarre, the mother of king Henry IV. At length he retired to Condé, where he had a benefice, and died about 1550. He wrote eight books of epigrams; and a poem on the forge, entitled *Ferraria*. He had great knowledge of antiquity and of the Greek language. Erasmus praises his epigrams.

BOURBON (Nicholas), a celebrated Greek and Latin poet, was nephew of the preceding. He taught rhetoric in several colleges of Paris; and cardinal Perron got him appointed professor of Eloquence in the Royal College: he was also canon of Langres, and one of the forty of the French Academy. He died in 1644, aged seventy. He is esteemed one of the greatest Latin poets France has produced. His poems were printed at Paris in 1630.

BOURBON, a small county of the United States, in Kentucky, bounded on the south-east by Clarke county; on the south-west by Fayette; north by Harrison, and north-west by Scott county. Bourbon-town is the chief town.

BOURBON, a river of North America, in Labrador, which issues from Lake Christianaux, passes through Lake Assinipoils, and falls into Hudson's Bay at York factory.

BOURBON, an island in the Indian Ocean about forty-eight miles long, and thirty-six broad,

about 400 miles east of Madagascar. It was discovered by the Portuguese in 1545, and at first called Mascarenhas. The French, however, first settled upon it, in 1642. For some years it was used as a place of banishment for offenders; but in 1649 M. de Flacourt, governor of Madagascar, formed an establishment on a large scale, and gave it the name of Bourbon, in honor of the French royal family. During the revolution it was called Reunion.

The island is composed of two volcanic mountains; in the smallest of which one considerable crater throws up continually, with terrific noise, flame, smoke, and ashes; and it makes lateral openings, through which the lava rolls down the sides of the mountain in a sort of fiery cascade. The light is seen far out at sea, and serves as a species of pharos. The present crater is said to have been formed during an eruption of the volcano in 1791. A burning vapor appeared rising from the summit in the beginning of June; then the side of the mountain opened, and a vast torrent of lava rushed into the sea. On the seventeenth of the following month a subterranean noise, like the discharge of cannon, was heard throughout the island; after which there rose from the top of the mountain an enormous column of deep black smoke, interspersed with white spots. Soon after the column fell down, and formed a species of arch over the volcano. The falling in of the interior, undermined by the previous discharge, is supposed to have been the cause of the tremendous sound, and of the opening of the crater at this time. This is said to be the most active volcano known in history. *Ætna*, since the Christian era, has counted but twenty-seven eruptions; and *Vesuvius* twenty-four. A resident at Bourbon told M. Bory, that from 1785 to 1802, the mountain had vomited flames at least twice every year, and eight of the streams had entered the sea. In the northern mountain, though no eruptions have been observed, the rapid rivers, bordered by perpendicular walls, hillocks thrown into the valleys and obstructing the bed of the torrents, and basaltic prisms disposed in regular colonnades, attest the ancient and terrible revolutions that have taken place. The soil around is a deep black, hard and brittle, and full of holes and crevices. In other parts the island is fertile, the air pure, and the climate delicious. The violence, however, of the mountain torrents during the rainy season, has in many places washed away the earth, and reduced the fields to sterility. A line of about four miles parallel to the coast is the only part cleared. Coffee has long been the staple product. The plants were first brought from Mocha in 1718, and thrive to such a degree, that the coffee of Bourbon was long considered as only second to that of Arabia. But during the revolution, the demand became irregular, and attention being no longer paid to its culture, the quality deteriorated. The tobacco is of good quality. Iron is found in the mountains and the forests, with which a great part of the island is covered, containing wood fit for ship-building; also aloes, ebony, palm, with a variety of odoriferous gum-trees, particularly benzoin. It produces corn, rice, and maize, more than suf-

ficient for its own consumption, exporting the surplus to Mauritius. The sugar-cane has been cultivated with some success, and a species of fermented liquor extracted from its juice. Horned cattle, hogs and goats, are also abundant. The coasts and rivers are well stocked with fine turtle, and ambergris, coral, and very beautiful shells, are found on the shores. The only noxious animals are rats and mice; and the chief inconvenience, the very violent hurricanes that occur. They take place from the middle of December to the beginning of April.

The following is a recent account of the total produce of the island on an average of several years:

Coffee	73,200 cwt.	Value 732,000 piastres.
Cloves	180,000 lbs.	540,000
Cotton	240,000	60,000
Grain	185,000	57,000
Maize	2,500,000	21,000
Peas	200,000	4,000
Potatoes	280,000	2,800

1,416,800 piastres.

The population of Bourbon has been taken so high as 65,000; but Bory St. Vincent, a recent traveller, assures us he found it to contain only 400 white inhabitants and 15,000 slaves. The darker and fairer complexions of mankind are sometimes singularly mixed here. A French writer assures us that he saw in a church one family, consisting of six generations, of all complexions. The eldest was a female, 108 years of age, of brown black, like the Indians of Madagascar; her daughter a mulatto; her granddaughter, a mestizo; her great granddaughter, of a dusky yellow; her daughter, again, of an olive color; and the daughter of this last, as fair as any English girl of the same age. It has nine parishes, but not a single good harbour, and along the whole coast sunken rocks abound.

BOURBON LANCY, a town of France, in the department of the Saone and Loire, and late province of Burgundy. It is remarkable for its castle and hot mineral waters; and has a large marble pavement, called the Great Bath, which is a work of the Romans. It is thirty-five miles south-east of Autun, and contains 2300 inhabitants.

BOURBON L'ARCHAMBAUD, a town of France, in the department of the Allier, and late province of Bourbonnois. It is situated in a valley, near the river, and is remarkable for its hot baths, and for giving name to the family of the late unfortunate king of France. It is fourteen miles west of Moulins, and 362 south of Paris. Population about 2800.

BOURBON-VENDEE, a small town of France, in Lower Poitou, and the department of Vendée, of which it is the capital. It was called Napoleon during the reign of Buonaparte. In the vicinity of this town the royalists experienced a signal defeat, on the 28th of December, 1795. In 1807 the inhabitants were under 1000 in number, but have since increased considerably.

BOURBONNE-LES-BAINS, a town of France, in the department of the Upper Maine, and late province of Champagne, famous for its hot baths.

It is twenty miles east of Langres, and has a population of about 3000.

BOURBONNOIS, a province and government of Old France, bounded on the north by Nivernois and Berry; on the west by Berry and part of Marche; on the south by Auvergne; and on the east by Burgundy and Forez. It is watered by the Loire, the Allier, and the Cher; and abounds in corn, fruit, pasture, wood, game, and wine. It now forms the greater part of the department of the ALLIER, which see.

BOURBONTOWN, a post town of Kentucky, and capital of the county of Bourbon, seated on the west side of the river Stony-fork. It is a flourishing town, and has several valuable mills adjacent to it. It lies twenty miles north-east of Lexington, sixty east of Frankfort, and 754 from Philadelphia.

BOURBOURG, a town of France, in the department of the North, seated on a canal that goes to Dunkirk.

BOURCHIER (John), lord Berners, grandson and heir of a lord of the same name, was created a knight of the Bath, at the marriage of the duke of York, second son of Edward IV. and was first known by quelling an insurrection in Cornwall and Devonshire, raised by Michael Joseph, a blacksmith, in 1495, which recommended him to the favor of Henry VII. He was captain of the pioneers at the siege of Therouanne, under Henry VIII. by whom he was made chancellor of the exchequer for life, lieutenant of Calais and Marches, appointed to conduct the lady Mary, the king's sister, into France, on her marriage with Louis XII. and had the extraordinary good fortune to continue in favor with that fickle tyrant for eighteen years. He died at Calais in 1532, aged sixty-three. He translated Froissart's Chronicle, printed in 1513, by Richard Pinson, the fifth on the list of English printers. His other works were a whimsical medley of translations, from French, Spanish, and Italian novels; viz. the Life of Sir Arthur, an Armorian Knight; the Famous Exploits of Sir Hugh of Bourdeaux; Marcus Aurelius; and the Castle of Love. He wrote also a book of the duties of the inhabitants of Calais; and a comedy, entitled *Ite in Vincam*, which is mentioned in none of our catalogues of English plays. Wood says it was usually acted at Calais after Vespers.

BOURCHIER, BOWSCHYRE, or BOWCER (Thomas), archbishop of Canterbury, in the successive reigns of Henry VI., Edward IV., Richard III., and Henry VII., son of William Bourchier, earl of Eire, in Normandy. He was made chancellor of Oxford in 1433, and at the same time promoted to the see of Worcester. In 1443 he was translated to the bishopric of Ely, and in 1434 was elected archbishop of Canterbury. He was the principal promoter of the introduction of printing to this country.

BOURDALOUE (Louis), a celebrated preacher among the Jesuits, and one of the greatest orators France has produced, was born at Bourges, on the 20th of August, 1632. After having preached at Provence, he, in 1669, went to Paris; and there met with such applause, that the king resolved to hear him; on which he was sent for to

court, and frequently preached before Louis XIV. He assisted the sick, visited the prisoners and hospitals, and was liberal in giving alms. He died at Paris on the 13th of May, 1704. The first edition of his sermons in sixteen volumes is the best.

BOURDEAUX, an ancient and large commercial town of France, in the department of the Gironde, and ci-devant province of Guienne. It has an university, which was founded in 1441, and which has a valuable library, and an academy of arts and sciences. Before the revolution it was the capital of the Bordelois, and of the whole of Guienne. It is built in the form of a bow, of which the Garonne is the string. This river is bordered by a noble quay, and the water rising four yards at full tide, the largest vessels can come up to it very readily. A castle, called the Trumpet, improved by Vauban, was seated at the entrance of the quay, and the river went round its walls, but it has been long destroyed. Most of the great streets lead to the quay. The town has twelve gates, opening towards the river; and near another castle are beautiful walks. Though considerable in point of size, it was anciently ill built, badly paved, and without police. But is said to have entirely changed its appearance within the last forty years. The remarkable public edifices are the exchange, the palace, founded by Buonaparte in 1810, an old palace of the dukes of Guienne, and an elegant theatre. The cathedral and some other churches are also admired. The streets newly built are regular and handsome. The beauty of the Garonne, and the fertility of the adjoining country, were probably the causes which induced the Romans to lay the foundation of this city. It was called by them *Burdigala*. The ruins of a large amphitheatre remain, which was constructed under the emperor Gallienus. During the irruptions of the barbarous nations, Bourdeaux was ravaged, burnt, and almost entirely destroyed. It only began to recover itself under our Henry II. who having united it to the English crown, by his marriage with Eleanor of Aquitaine, rebuilt the city, and endeavoured to restore it to its ancient lustre. Edward the Black Prince, received Guienne, Gascony, and many inferior provinces, in full sovereignty from his father, Edward III. In 1356 he brought his royal captive, John, king of France, to this city, after the battle of Poitiers; and held his court and residence here during eleven years. His exalted character, his uninterrupted series of good fortune, his modesty, his affability, and his munificence, drew strangers to Bourdeaux from every part of Europe. His son, Richard II. was born in it. In 1453 Charles VII. king of France, re-entered the city, and subjected the whole province of Guienne, which had been near three centuries under the English government. Conscious of the importance of such a conquest, he ordered the Chateau Trompette to be built to defend the passage of the river. In 1548 an insurrection arose on account of an oppressive salt-tax, and among the excesses committed, was the murder of De Morems, the governor. For this the town was severely punished by the constable Montmorency. Bour-

deaux contains upwards of 100,000 inhabitants, and has a flourishing trade in wine and brandy; 100,000 pipes of the former are sometimes exported in a year. There are fourteen sugar refineries, glass-houses, and manufactures of woollen stuffs, earthenware, and lace. The rivers Garonne and Dordogne give it access to a vast range of country, and the maritime commerce of the city is only second to that of Marseilles. Its prosperity has great influence on the whole south-west of France. Raisins, vinegar, plums, chestnuts, walnuts, wood, turpentine, cork, honey, and hams, are other objects of exportation. The principal imports are; from England, woollen stuffs, tin, lead, coal, herrings, salted flesh, leather, dye stuffs, and different kinds of provisions; from Holland, Denmark, and Sweden, staves, deals, timber for ship-building, hemp, pitch, copper and cheese. The Bourdeaux merchants take a part in the whale and cod fisheries, through the medium of the ports of Bayonne, St. Jean de Luz, and St. Malo. The intercourse with the United States is greatly on the increase. The course of exchange comprises London, Antwerp, Amsterdam, Hamburg and Paris, besides the principal trading towns in France. Two yearly markets, for the wine trade, a fortnight each, are held in March and October. Bourdeaux, during the late revolution, having attached itself to the Girondists, became the open enemy of the convention, and received a treatment similar to that of Lyons and Marseilles. The most opulent and respectable inhabitants were banished or guillotined, and their property confiscated. After the re-establishment of order under Buonaparte, the town was beginning to recover from its sufferings, when the war of 1803 broke out, and dissipated for a time its fair prospects of extensive trade with England. In 1814 Bourdeaux was the first place which declared for the Bourbons.

The Bordelois, or district of Bourdeaux, is twenty-eight miles long and ten broad. The soil is well cultivated, and produces great quantities of the wine so well known as the *vin de Bourdeaux*, or claret. It now forms the greater part of the *arrondissement*. Fifty-five miles south of Saintes, ninety south of La Rochelle, 280 W. S. W. of Lyons and 325 south-west of Paris.

BOURDELOT (John), a learned French critic, who lived at the close of the sixteenth and beginning of the seventeenth centuries. He distinguished himself by writing notes on Lucian, Petronius, and Heliodorus; by an Universal History; Commentaries on Juvenal; a Treatise on the Etymology of French words; and some other works never published.

BOURDELOT (Peter), sister's son to John, changed his name from Michon to oblige his uncle. He had the title of Abbé, and was a celebrated physician at Paris, and gained great reputation by a Treatise on the Viper, and other works. He died in 1685.

BOURDIN, a name given by Bellonius to a genus of univalve shell-fish, commonly known among authors by the name of *auris marina*.

BOURDON (Sebastian), a famous painter,

born at Montpellier in 1619. He studied seven years at Rome, and acquired such reputation, that at his return to France he was made rector of the academy of painting at Paris. He succeeded better in landscapes than in history painting. The most esteemed of all his performances is the martyrdom of St. Peter, drawn for the church of Notre Dame: it is kept as one of the choicest rarities of that cathedral. In 1652 Bourdon went to Stockholm, where queen Christina appointed him her first painter. After continuing in Sweden some time, he returned to France, and obtained abundant employment. Among his best performances at this period, were a Dead Christ, and the Woman taken in Adultery. There are also a great number of his etchings, which are executed in a bold masterly style, and are justly held in the highest estimation by the generality of collectors. He died in 1673, aged sixty-four.

BOURG EN BRESSE, a town of France, in the department of the Ain, and ci-devant province of Bresse. Near this place was the magnificent church and monastery of the late Augustines, the mausoleum of Margaret of Austria, aunt of Charles V. It was the birth-place of the celebrated astronomer, La Lande. It stands on the river Reyssouse, and carries on a trade in grain, cattle, and hides; it has likewise manufactures of coarse stuffs and combs. Twenty miles east of Maçon, forty-two west of Gex, and 260 south-east of Paris.

BOURGEOIS (Francis), born in London, of Swiss parents, in 1756. His early destination was the army; but, evincing a taste for painting, he was placed under Louthembourg, whose style he adopted. In 1776 he went to Italy, and on his return exhibited several specimens of his talent at Somersethouse. In 1791 he was appointed painter to the king of Poland, who conferred on him the honor of knighthood. Three years afterwards his late majesty George III. nominated him his landscape painter; and he was admitted a member of the Royal Academy. Sometime before his death he became possessed, by the bequest of Mr. Noel Desenfans, of a noble collection of pictures, which he left to Dulwich college, together with £10,000 to keep them in preservation; £2000 for the repair of the gallery, and £1000 to the master and fellows of that foundation. Sir Francis died the 8th of January, 1811.

BOURGEON, *v. & n.*, of uncertain origin. Fr. *bourgeonner*, to operate; to shoot into branches; to put forth buds.

Long may the dew of heaven distil upon them, to make them *bourgeon* and propagate among themselves.

Howel.

O that I had the fruitful heads of Hydra,
That one might *bourgeon* where another fell!
Still would I give thee work.

Dryden.

BOURGES, an ancient town of France, in the department of the Cher, and forming the capital of the province of Berry. It has a university, founded or restored by Louis XI. who was born here. Although in extent it is one of the largest cities in France, the inhabitants hardly amount to more than 18,000, and their trade is inconsiderable. Bourges was also the birth-place of

the celebrated preacher Bourdaloue. The nobility, clergy, and students, who reside here, are the chief supports of the town, but there are manufactures of silk, woollen, and cotton stuffs, as well as of stockings, caps, and other articles of clothing. The chief objects of trade are corn, wine, cattle, wool, hemp, and cloth.

This city was the Avaricum of the ancients, so called from the river Avara, now the Yèvre. Cæsar took it by storm after a protracted siege, and regarded it as one of the best fortified towns in Gaul. Besides being the capital of the department of the Cher, Bourges is the headquarters of the commandant of the twenty-second military division, the seat of a royal court for the departments of the Cher, the Indre, and the Nièvre, and the head of an arrondissement, which contains ten cantons. Thirty-six miles north-west of Nevers, sixty-one south-east of Orleans, eighty-four east by south of Tours, and 155 south of Paris.

BOURGET (Dominic John), an ingenious French antiquary, was born at the village of Beaumains, near Falaise, in the diocese of Seez, in 1724. He was educated at Caen, and pursued his studies with great diligence and success till 1745, when he became a Benedictine monk of the abbey of St. Martin de Seez. Some time after, he was appointed prior, and went through several successive promotions till at last he was removed to the abbey of Bec, where he resided till 1764. He was elected an honorary member of the Society of Antiquaries of London, January 10th, 1765; in which year he returned to the abbey of St. Stephen, at Caen, where he continued to the time of his death. These honorable offices, to which he was promoted on account of his great abilities, enabled him not only to pursue his favorite study of the history and antiquities of some of the principal Benedictine abbeys in Normandy, but likewise gave him access to all their charters, deeds, registers, books, &c. These he examined with great care, and left behind him in MS. large and accurate accounts of the abbeys of St. Peter de Jumieges, St. Stephen, and the Holy Trinity, at Caen, founded by William the Conqueror, and his queen Matilda, and a very particular history of the abbey of Bec. These were all written in French. The History of the Royal Abbey of Bec, which he presented to Dr. Ducarel in 1764, is only an abstract of his larger work. This ancient abbey, which has produced several archbishops of Canterbury, and other illustrious prelates of this kingdom, is frequently mentioned by our old historians. He died 1st of January, 1776, much regretted.

BOURGOGNE, or **BURGUNDY**, a ci-devant province of France, bounded on the east by Franche Comté, on the west by Bourbonnois and Nivernois, on the south by Lyonnais, and on the north by Champagne. It is fertile in corn, fruits, and excellent wines. It is 112 miles in length, and seventy-five in breadth; and is now formed into the four departments of Cote d'Or, Saone and Loire, Yonne, and Ain. It is watered by the rivers Seine, Ain, Dehune, Brebince, Armançon, Ouche, Suzon, Tille, and Saone. Dijon was the capital.

BOURGOING (Jean François de), a traveller, was born of a good family, at Nevers, November 20th, 1748. He was brought up in the military school at Paris; and at the age of seventeen sent to Strasburg, where he studied the law. He received a commission, at the end of three years, in the regiment of Auvergne; and, when scarcely twenty, he was appointed secretary of legation at the Diet of Ratisbon. In 1777 he went as first secretary to M. de Montmorin, in the embassy in Spain; and eight years afterwards became charge d'affaires at Madrid. In 1787 he was sent as minister plenipotentiary to Hamburg; and in 1791 revisited Spain in the same capacity. Here he remained until 1793. In 1801 he was appointed by Buonaparte, then first consul, on a mission to the court of Denmark, and afterwards to Stockholm. In 1808 he went as minister plenipotentiary to the court of Dresden, where he contracted a disorder which terminated his life at Carlsbad, July 29th, 1811. His works are: 1. *Nouveau Voyage en Espagne, ou Tableau de l'Etat actuel de cette Monarchie*, 3 vols 8vo. 1789, but afterwards republished with the title of *Tableau de l'Espagne Moderne*. 2. *Memoires Historiques et Philosophiques, sur Pie VI. et sur son Pontificat*, 2 vols. 8vo. 1798. 3. *Histoire des Flibustiers*, traduite de l'Allemand de M. d'Archenholz, 8vo. 1804. 4. *Histoire de l'Empereur Charlemagne*, traduction libre de l'Allemand du Prof. Hegewisch, 8vo. 1805. 5. *Correspondence d'un jeune Militaire, ou Memoires du Marquis de Lusigny et d'Hortense de St. Just*, 2 vols. 12mo. 1778. He was also the editor of Voltaire's *Correspondence with Britain*, and some other books.

BOURGUIGNONS, or BURGUNDIANS, one of the northern nations who over-ran the Roman empire, and settled in Gaul. They were of a great stature, and very warlike; for which reason the emperor Valentinian the Great engaged them in his service against the Germans. They lived in tents close to each other, that they might the more readily unite on any unforeseen attack. These conjunctions of tents were called burghs; and they served them for towns. Sidonius Apollinaris tells us, that they were long hair, took great pleasure in singing, and were fond of praise for their vocal talents. He adds, that they ate great quantities; and anointed their hair with butter, deeming that unction very ornamental. Their crown was at first elective, and the authority of their kings depended on their success. They were not only accountable for their own misconduct, but likewise for the calamities of nature and fortune. They were deposed if they lost a battle; if they succeeded ill in any enterprise; or if, in short, any great event had not corresponded with the hopes of the people. They were not more favorably treated in case of a bad harvest or vintage, or if any epidemical distemper ravaged the state. At first they were governed by many kings, and Hendin was the title of the royal dignity. But in later times they were subjected to one sovereign; and on the introduction of Christianity, they grew humane and civilised. Before that epoch, their religion was much the same with that of the other northern nations. They had many

priests, the chief of whom was entitled *sinistrus*. He was perpetual, and they paid him great respect.

BOURIGNON (Antonietta), a famous enthusiastic preacher, and pretended prophetess, born at Lisle, in 1616. At her birth she was so deformed, that it was debated some days in the family whether it was not proper to stifle her as a monster; but her deformity diminished, and she was spared; and afterwards obtained such a degree of beauty, that she had her admirers. From her childhood to her old age, she had an extraordinary turn of mind. She set up for a reformer, and published a great number of books filled with very singular notions; the principal of which are entitled, *The Light of the World*; *The Testimony of Truth*; and, *The Renovation of the Gospel Spirit*. She was an enemy to reason, which she maintained ought to give place to the illumination of divine faith; and asserted, that whenever any one was born again by embracing her doctrine, she felt the pains and throes of a woman in labor. With regard to the jarring doctrines of predestination and free-will, which philosophers, divines, and metaphysicians, in all ages, have puzzled themselves in vain to reconcile, she cut the Gordian knot at once; by asserting, that although God can foresee every future event, yet his power being equal to his wisdom, he withholds from himself the foreknowledge of the actions of those to whom he has given free-will, and thus leaves them entirely free to act as they please; without which, she affirms, he could not be just in punishing their sins. She dressed like a hermit, and travelled to France, Holland, England, and Scotland. In the last she made a strong party, and some thousand converts, and died at Franeker, in Friesland, October 30th, 1680. Her works have been printed in eighteen vols. 8vo. An Apology for her life and opinions was written by professor Garden, of Aberdeen.

BOURIGNONISTS, a name given to the followers of Antonietta Bourignon, who set up a kind of quietism, pretending to be guided by immediate revelation.

BOURN', Ang.-Sax. byrna, burn; Dutch, *born*; Germ. *born*, *brunn*; Swed. *brunna*, from *berinnan*, *berinnan brinnan*, to run.

Diverse *bournes* sodainly brake out of the hollowe places of the earth, and overflowed a great part of Canterbury citie, the streame whereof run so swift and violent, that it bare down buildings and houses, and drowned manie people. *Stow. Ann.* 1271.

Ne swelling Neptune, ne loud thundering Jove,
Can change my cheer, or make me ever mourn:
My little boat can safely pass this perilous *bourne*.

Spenser.

BOURN, n. s. Fr. *borne*, a bound; a limit; the end or furthest compass of a thing.

Bourn, bound of land, till, vineyard, none.

Shakspeare.

That undiscovered country, from whose *bourne*

No traveller returns.

Id.

False,

As dice are to be wished by one that fixes

No *bourne* 'twixt his and mine.

Id.

I know each lane, and every alley green,

And every bosky *bourne* from side to side. *Milton.*

BOURN, an ancient market town of Lincolnshire, seated on a rivulet. It was the birth-

place of the great Lord Burleigh and the unfortunate Dr. Dodd. King Edmund was crowned in it. It has a good corn market, and three fairs. It is seventeen miles north of Peterborough, thirty-five south of Lincoln, and ninety-seven north of London.

BOURNE (Vincent), a modern Latin poet, was educated at Westminster school, whence he removed to Trinity College, Cambridge, and took the degree of M. A. in 1721. He afterwards occupied for some years the situation of under-master at Westminster, and died in this situation in 1747. His character was respectable, but his habits and manners so contrary to those of common life, as to expose him frequently to the pleasantry of his pupils. His poems, consisting of originals and translations, have been often printed.—‘I love the memory of Vinny Bourne,’ says the amiable Cowper to his friend Unwin. ‘I think him a better Latin poet than Tibullus, Propertius, Ausonius, or any of the writers in his way, except Ovid, and not at all inferior to him. It is not common to meet with an author who is always entertaining and yet always harmless, and who though always elegant and classical, to a degree not always found in the classics themselves, charms more by the simplicity and playfulness of his ideas, than by the neatness and purity of his verse. Yet such was poor Vinny.’
Vide Hayley's Life of Cowper.

BOURNONITE, in mineralogy, an ore found in Cornwall containing copper, lead, and antimony, mineralised by sulphur, it is named after its discoverer the Comte de Bournon.

BOURO, one of the Molucca Islands in the East Indian ocean, the largest next to Ceram. It is well cultivated, and subject to the Dutch, who have built a fortress in it, near the only town of the Island, called Cajeli. It is about seventy-five miles in length by forty broad. Some of its mountains are exceedingly high, and the sea on each side is uncommonly deep. Here is also an internal lake, said to increase periodically; and to have an island in the middle which appears and disappears at particular seasons. The inhabitants consist of two races, besides the Dutch settlers; the aborigines, or Alforeses, and the Moors, or Mahomedans. The former are a savage pagan tribe, of whom, living in the interior, little is known, they seem to be under some imperfect control from their chiefs, and are apparently of the same race that formerly inhabited Amboyna, and Borneo. The Moors acknowledge the authority of the Dutch, and have also chiefs who are generally at the seat of the Dutch government. They are not a warlike race, and are in great dread of the Papuas: are said to be ignorant of the value of money; and readily exchange provisions and cayooputi oil, for red and white China handkerchiefs. Cayeli Road is on the north-east coast, a spacious secure harbour, much frequented by English whalers. Here is a river called Aer-Bessar, or the Great Water, by the natives the Dutch fort, and a small garrison. Rice and Sago flour are produced here in large quantities, oranges, lemons, citrons, and pepper. The cayooputi tree, or melaleuca catigolia is very plentiful; the natives obtain much cayooputi oil by distilling the leaves.

Fine hard timber also, including many kinds of beautiful wood for inlaying, is also found, and is in great request among the Chinese; besides black and white ebony, teak, &c. Fish is not plentiful, but turtle may be obtained, and the shores are covered with beautiful shells. Wild boars, snakes of all sizes, goats, and deer, inhabit the woods, among the latter is the babirusa, or true hog deer. Buffaloes are kept by the Dutch. The river Abbo likewise affords shelter to immense alligators, which are said in some cases to attack people in boats. Bourou was once subject to the king of Ternati; but the Dutch influence has been long predominant; they principally value it as yielding rice and sago for Amboyna, from which it is distant fifty-five miles west. Their fort stands in long. 12° 4' E., lat. 3° 24' S.

BOURTANG, a town and fortress of Groningen, in the Netherlands, surrounded by an extensive morass of the same name, which extends to Lower Munster. It was taken by the Spaniards in 1593; besieged unsuccessfully by the bishop of Munster in 1672, and taken by the French in 1795. It is twelve miles S. S. W. of Winschoten.

BOUSE, } Dutch, *buysen*. According to
Bousy', } Kilian, the buyse is a cup with two handles, which, on account of its size, is taken up and set down with both hands: hence to drink lavishly; to tope.

As he rode, he somewhat still did eat,
And in his hand did bear a *bousing* can,
Of which he sipt. *Faerie Queene.*

With a long legend of romantick things,
Which in his cups the *bousy* poet sings. *Dryden.*

The guests upon the day appointed came,
Each *bousy* farmer with his simpering dame. *King.*

BOUSTROPHEDON, in literature, an ancient method of writing among the Greeks, wherein the lines were continued forwards and backwards, like the furrows in plowing. Pausanias mentions several ancient inscriptions written in this manner: the laws of Solon are said to have been thus written. The second line is turned on the contrary side, beginning at the end of the former, thus:

EK ΔΙΟΣ ΑΡ-
ΒΟΥΣΤΡΟΧ

BOUT', *n. s.* See BOUGHT. Ital. *botta*, a turn; as much of an action as is performed at one time, without interruption; a single part of any action carried on by successive intervals.

The play began: Pas durst not Cosma chase;
But did intend next *bout* with her to meet. *Sindey.*

Ladies, that have your feet
Unplagued with corns, we'll have a *bout*. *Shakspeare.*

When in your motion you are hot,
As make your *bouts* more violent to that end,
He calls for drink. *Id.*

If he chance to 'scape this dismal *bout*,
The former legatees are blotted out. *Dryden.*

A weasel seized a bat; the bat begged for life:
says the weasel, I give no quarter to birds: says the
bat, I am a mouse; look on my body: so she got off
for that *bout*. *L'Estrange.*

We'll see when 'tis enough,
Or if it want the nice concluding *bout*. *King.*

BOUTADE, in music, an irregular flight or movement, without art or study.

BOUTAEL, in ichthyology, the name of an East Indian fish, of the lamprey kind, called also neegen oogen, and by Mr. Ray, *lampetra Indica*. It is caught in lakes, ponds, and other standing waters, and is a very wholesome and well tasted fish. From its general description, it seems to be rather of the *mustela* than the *lampetra* kind; but if, as its name expresses, it has several apertures for the gills, its Dutch name signifying nine eyes, it is absolutely a new genus.

BOUTANT, or **ARCH-BOUTANT**, in architecture, an arch, or part of an arch, abutting against the reins of a vault to prevent its giving way.

BOUTANT PILLAR, a large chain or pile of stone, made to support a wall, terrace, or vault.

BOUTE, in the menage, an epithet for a horse, when his legs are in a straight line from the knee to the coronet: short-jointed horses are apt to boute, but not long-jointed ones.

BOUTON, an island near the south-east coast of Celebes, about eighty-five miles in length, by twenty to thirty in breadth. It is high and woody, abounding in fruits and vegetables, and on the whole not ill cultivated. Buffaloes are found wild in large herds; and in the woods there are deer and wild boars. The inhabitants are of tawny complexion, short stature, and very ugly. On the coast they speak the Malay language, and are Mahomedans. The Island is well peopled, but little known internally; its peace is constantly disturbed by the invasion of pirates; who however are frequently captured by the natives, and sold as slaves. It is said to be governed by a sultan, whose dominion extends over the neighbouring island Pangesani, and some others. His residence is at the town of Bouton, in a stone fort. This town is at the top of a steep declivity near the entrance of the straits, on the north-west coast, and is surrounded with thick walls. The streets are straight and narrow; and the houses built of bamboo, covered with palm leaves, consist but of one story. The inhabitants manufacture a quantity of cotton cloth; of very fine texture, and bearing a good price. They barter for hardware and cutlery, but prefer money. The Dutch formerly had a factory, together with a detachment and an officer, here; but after these had been massacred, about a century ago, they were not replaced. Forts are built throughout the country, on the most inaccessible heights. The town of Bouton is in long. 122° 30' E., lat. 5° 28' S.

BOUTONNE, a river of France in the department of the Lower Charente, which rises in the cidevant province of Poitou, becomes navigable at St. Jean D'Angely, and falls into the Charente.

BOW, *v. & n.* } Bow is the past tense and
Bow'ing, } past participle of the Ang-
Bow'back, } Sax. bygan. To bend; to
Bow'hand, } curve; to crook; to arch; to
Bow'bent, } incline; to decline. In
Bow'man, } every application of this
Bow'er, } word, however its modes of
Bow'shot, } signification may be affect-
Bow'yer, } ed by its connexion, it
Bow'string. } always means one and the
same thing, viz. bended or curved. The verb is
used, to give way; to yield; to submit; to slip
aside; to avoid danger, by bending or shrinking.

Take, I pray thee, thy weapons, thy quiver, and thy bow, and go out to the field, and take me some venison. *Genesis.*

I do set my bow in the cloud, and it shall be for a token of a covenant between me and the earth. *Id. ix. 13.*

And eke he brake his arrows and his bowe,
And after that thus spake he to the crowe.

Chaucer's Canterbury Tales.

He saw befor him ride

A gay yeman under a forest side;
A bow he bore, and arwe bright and kene.
He had upon a courtpey of grene,
An hat upon his hed with fringes blake,
Sire, quod the Sompnorer, haile, and wel atake. *Id.*
She sees her son, her God.

Bow with a load

Of borrowed sins; and swim

In woes that were not made for him.

Crashaw's Sancta Maria Dolorum.

Ye gods of love that pitie lovers paine,
(If any gods the paine of lovers pitie),
Looke from above, where you in joys remaine,
And bow your eares unto my doleful dittie. *Spenser.*

Perdie with love thou diddest fight;

I know him by a token.

For once I heard my father say,

How he him caught upon a day,

(Whereof he will be wroken,)

Entangled in a fowling net,

Which he for carrion crows had set,

That in our pear-tree haunted;

He said he was a winged lad,

But bowe and shaftes as then none had,

Els had he sore been daunted. *Id.*

Cupid and my Campaspe played
At cards for kisses, Cupid paid;
He stakes his quiver, bow, and arrows,
His mother's doves, and team of sparrows;
Loses them too, then down he throws
The coral of his lip, the rose
Growing on's cheek (but none knows how),
With these the crystal of his brow,
And then the dimple of his chin,
All these did my Campaspe win.
At last he set her both his eyes,
She won, and Cupid blind did rise.
O Love has she done this to thee,
What shall, alas! become of me!

Lyly's Alexander and Campaspe.

As the ox hath his bow, Sir, the horse his curb, and the faulcon his bells, so man hath his desire. *Shakespeare.*

A threepence bowed would hire me,

Old as I am, to queen it. *Id.*

Orpheus, with his lute, made trees,

And the mountain tops that freeze,

Bow themselves when he did sing. *Id.*

Rather let my head

Stoop to the block, than these knees bow to any,
Save to the God of heaven, and to my king. *Id.*
Surely he shoots wide on the bow-hand, and very far from the mark. *Spenser's Ireland.*

This is the great idol to which the world bows; to this we pay our devoutest homage. *Decay of Piety.*

The white faith of history cannot show

That e'er the musket yet could beat the bow.

Allegne's Henry VII.

A sybil old, bow-bent with crooked age,
That far events full wisely could presage. *Milton.*

To bow and sue for grace,

With suppliant knee, and deify his power,

Who from the terror of this arm so late

Doubted his empire; that were low indeed;

That were an ignominy and shame beneath

This downfall.

Milton's Paradise Lost.

Their instruments were various in their kind ;
Some for the *bow*, and some for breathing wind :
The sawtry, pipe, and hautboy's noisy band,
And the soft lute trembling beneath the touching
hand. *Dryden's Fables.*

A warped *bow*, though strung with silken threads,
And crooked arrowes, tipt with golden heads,
Delight not archers, yet such uselesse toys
Be fit enough for buglers and for boyes. *George Wither.*

Good folks take heed ; for here's a wanton wagge,
Who, having *bowes* and arrowes, makes his brag
That he hath some unhappy trick to play ;
And vows to shoot at all he meets to-day.
Pray be not carelesse ; for the boy is blinde,
And sometimes strikes, where most he seemeth kinde :
This rambling archer spares nor one, nor other ;
Yea otherwhile the monkey shoots his mother. *Id.*

Curse on this love, this little scare-crow love
That frights fools with his painted *bow* of lath
Out of their feeble senses. *Otway's Orphan.*

Though he were not then a *bow-shot* off, and made
haste ; yet, by that time he was come, the thing was
no longer to be seen. *Boyle.*

Some clergy too she would allow,
Nor quarrelled at their awkward *bow*. *Swift.*

They smile and *bow*, and hug and shake the hand,
Even while they whisper to the next assistant
Some cursed plot to blast its owner's head

Beller's Injured Innocence.
Now wasting years my former strength confound,
And added woes may *bow* me to the ground. *Pope.*

Yet still a lover's warmth he shows,
And makes his visits and his *bows*. *Somerville.*

There the sycophant, and he
That with bare-headed and obsequious *bows*
Begs a warm office, doomed to a cold jail
And groat per diem, if his patron frown.

Couper's Task.

Meantime refracted from yon eastern clouds,
Bestrident earth, the grand ethereal *bow*
Shoots up immense, and every hue unfolds
In fair proportion, running from the red
To where the violet fades into the sky. *Thomson.*

Perchance she died in youth : it may be, *bowed*
With woes far heavier than the ponderous tomb
That weighed upon her gentle dust ; a cloud
Might gather o'er her beauty, and a gloom
In her dark eye, prophetic of the doom
Heaven gives its favorites—early death. *Byron.*

Or view the Lord of the unerring *bow*,
The God of life, and poesy, and light,
The sun in human limbs arrayed, and brow
All radiant from his triumph in the fight ;
The shaft hath just been shot, the arrow bright
With an immortal's vengeance ; in his eye
And nostril beautiful disdain, and night,
And majesty, flash their full lightnings by,
Developing in that one glance the Deity. *Id.*

Bow, as above defined, is also called the long bow, by way of distinction from the cross bow. The bow is the most ancient, and the most universal of weapons. It has been found to obtain among the most barbarous people who had the least communication with the rest of mankind. Barbarous nations often excel in the fabric of the particular things which they have the greatest necessity for in the common offices of life. The Laplanders, who support themselves almost entirely by hunting, have an art of making bows, which we, in these improved parts of the world,

have never arrived at. Their bow is made of two pieces of tough and strong wood, shaved down to the same size and flatted on each side ; the two flat sides of the pieces are brought closely and evenly together, and then joined by means of a glue made of the skins of perch, which they have in great plenty, and of which they make a glue superior in strength to any which we have. The two pieces, when once united in this manner, will never separate, and the bow is of much more force to expel the arrow, than it could possibly have been under the same dimensions if made of only one piece. Among the ancients, the bow-string, called *τριχως*, was made of horse hair, and hence also called *ιππεια* ; though we find Homer's bow-strings frequently made of hides cut into small thongs ; whence *τοξα βοεια*. The uppermost part of the bow, to which the string was fastened, was called *κορωνη*, being commonly made of gold, and the last thing towards finishing the bow. The Grecian bows were frequently beautified with gold or silver ; whence we have mention of aureus arcus ; and Apollo is called *Αργυροτοξος*. But the matter of which they were ordinarily composed, seems to have been wood ; though they were anciently, Scythian-like, made of horn, as appears from that of Pandarus in Homer's Iliad. δ. v. 105. The invention of the bow is usually ascribed to Apollo, by whom it was communicated to the primitive inhabitants of Crete, who are said to have been the first people who understood the use of bows and arrows. And hence, even in later ages, the Cretan bows were famous, and preferred by the Greeks to all others. Some, however, rather choose to honour Perses, the son of Perseus, with the invention of the bow ; while others ascribe it to Scythes, son of Jupiter, and progenitor of the Scythians, who were excellent at this art, and by many reputed the first masters of it. From them it was derived to the Grecians, some of whose ancient nobility were instructed by the Scythians in the use of the bow, which in those days passed for a most princely education. It was first introduced into the Roman army in the second Punic war. The Scythian bow was famous for its incurvation, which distinguished it from the bow of Greece and other nations ; being so great as to form a half moon or semicircle : whence the shepherd in Athenæus, in describing the letters in Theseus's name, and expressing each of them by some apposite resemblance, compares the third to the Scythian bow ; meaning not the more modern character Σ, but the ancient C, which is semicircular, and has the third and sixth place in Θ Η C E Y C. The Indians still retain the bow. In the repository of the Royal Society there is a West Indian bow two yards long. The use of the bow and arrow was first abolished in France under Louis XI. in 1481, and in their place was introduced the Swiss arms ; viz. the halberd, pike, and broad sword. The long bow was formerly in great vogue in England ; most of our victories in France were acquired by it ; and many laws were made to regulate and encourage its use. See ARCHERY. The parliament under Henry VIII. complain of the disuse of the long bow, 'heretofore the safe-

guard and defence of this kingdom, and the dread and terror of its enemies.' 33 Hen. VIII. cap. 6. The art of using bows is called archery, and those practised therein, archers, or bowmen. The strength of a bow may be calculated on this principle, that its spring i. e. the power whereby it restores itself to its natural position, is always proportionate to the distance of space it is removed therefrom. See ARTILLERY, ANCIENT.

Bow, for taking the sun's altitude, consisted of a large arch of 90° graduated, a shank or staff, a side vane, a sight vane, and an horizon vane. It is now out of use.

Bow, in music, a small machine, which, being drawn over the strings of a musical instrument, makes it resound. It is composed of a small stick, to which are fastened eighty or a hundred horse-hairs, and a screw which serves to give these hairs a proper tension. In order that the bow may touch the strings briskly, it is usual to rub the hairs with resin. The ancients do not appear to have been acquainted with bows of hair; in lieu of which they touched their instruments with a plectrum; over which our bows have great advantage, for giving long and short sounds, and other modifications which a plectrum cannot produce.

Bow, in navigation, an arch of the horizon comprehended between some distant object and that point of the compass which is right a-head, or to which the ship's stern is directed. The phrase 'on the bow' is equally applicable when the object is beheld from the ship, or discovered by trigonometrical calculation: As, we saw a fleet at day-break bearing three points on the star-board-bow; that is, three points from that part of the horizon which is right a-head, towards the right-hand. See BEARING.

Bow, in ship-building, the rounding part of a ship's side forward, beginning at the place where the planks arch inwards; and terminating where they close, at the stem or prow. It is proved by a variety of experiments that a ship with a narrow bow is much better calculated for sailing swiftly than one with a broad bow; but is not so well fitted for a high sea, into which she always pitches or plunges her fore-part very deep, for want of sufficient breadth to repel the volume of water which she so easily divides in her fall. The former of these is called by seamen a lean, and the other a bluff bow. 'The bow which meets with the least resistance in a direct course, not only meets with least resistance in oblique courses but has the additional property of driving the least to leeward; which is a double advantage gained by forming the bow so as to give it that figure which will be least resisted in moving through any medium.' *Bouguer Traité de Navire*.

Bow, or DRILL-BOW, among artificers, an instrument so called from its figure; used by goldsmiths, gunsmiths, locksmiths, watchmakers, &c. for making a drill go. Among turners it is the name of a pole fixed to the ceiling, to which they fasten the cord that whirls round the piece to be turned.

Bow, CROSS, or ARBALEST, consists of a steel bow, set in a shaft of wood, furnished with a string and a trigger; and is bent with a piece of

iron fitted for that purpose. It serves to throw bullets, large arrows, darts, &c. The ancients had large machines for throwing many arrows at once, called balistæ. See ARTILLERY.

Bow of A SADDLE, the fore bow which sustains the pommel, is composed of the withers, the breasts, the points or toes, and the corking. The hind bow bears the trosequin or quilted roll. The bows are covered with sinews to make them strong, and strengthened with bands of iron to keep them tight; and on the lower side are nailed the saddle straps, with which they make fast the girths.

Bow DYE, a kind of scarlet red, superior to madder; but inferior to the true scarlet grain for fixedness and duration. It was brought into England, and first practised at the village of Bow, near London, by Kephler, a Dutchman, in 1643.

BOWDICH (Thomas Edward), an enterprising modern traveller, was born at Bristol, in 1793, and received his education partly in his native city and partly at Corsham, in Wilts. He went for a short time, to Oxford, and was soon matriculated; and, marrying early, commenced business at Bristol. In 1814 he went to Cape Coast castle as a writer in the service of the African Company, the governor of that place being his uncle. The following year he was appointed second in an embassy to the king of Ashantee, which trust he discharged so satisfactorily as to be promoted to the head of the mission. Returning to England, in 1816, he prepared an *Account of the Ashantees*, and a detail of the mission, in one quarto volume, embellished with curious plates. After the publication of this work in 1819, Mr. Bowdich went to France, where he translated a *Treatise on Taxidermy*, and *Mollien's Travels to the Sources of the Senegal and Gambia*. He also wrote, *An Essay on the Geography of North-west Africa*, accompanied by a map of his own drawing. To this performance succeeded *An Essay on the Superstitions, Customs, and Arts, common to the ancient Egyptians, Abyssinians, and Ashantees*; and a piece entitled *The Contradictions in Park's Last Journal Explained*. This was followed by *A Mathematical Investigation, with Original Formulæ for Ascertaining the Longitude at Sea by Eclipses of the Moon*. Mr. Bowdich sailed for Lisbon, in August 1822, accompanied by his wife, where he collected information respecting the Portuguese discoveries in Angola and Mozambique, the result of which has been since published. His destination was for the river Gambia, where he undertook a survey of its course, in the execution of which he caught a fever, and died Jan. 10th, 1824. Mrs. Bowdich, since his death, has prepared for the press, *A Description of the Island of Madeira, with a Narrative of her husband's last Voyage, Remarks on the Cape de Verd Islands, and a Description of the English Settlements on the Gambia*. Mr. Bowdich is said to have been a good classic, and to have been sufficiently versed in the physical and mathematical sciences to have rendered him a traveller of great eminence.

BOWDLER (John and Thomas), were the sons of a banker in London, the former was born March 18th, 1746. He was placed, at an early

age, under the tuition of Mr. Graves, of Claverton, near Bath, the well known author of the *Spiritual Quixote*. Thence he was removed to a school at Brompton, and finally, to the academy of the Rev. Mr. Brett, at Spring Grove, with whom he continued till his entrance at the Temple in 1765; but, being of a feeble constitution, and possessing a good fortune, he never followed the law as a profession. In 1778 he married the daughter of Mr. Hanbury, vice consul of the English factory at Hamburgh, by whom he had a numerous family. In this lady he had the happiness to find a woman of unusually strong judgment, enriched with knowledge; yet adorned with a meek and quiet spirit. The family was prolific in talent. Mr. Bowdler's eldest sister had a peculiar facility in acquiring languages; and her ardent piety, and genius are exhibited in a volume of poems and essays, published after her death, in 1784, for the benefit of the Bath hospital. The following year Mr. Bowdler's father died, on which he removed to Seven Oaks, in Kent, next to Hayes, and afterwards to Eltham; where he exerted himself in a variety of good works. Here he published *Reform or Ruin, Take Your Choice*; a tract on Religious Education; and some other useful works. He died June 29th 1823.

Thomas Bowdler, Esq. F.R.S. and S.A. died at Rhyddings in the parish of Swansea, in 1824, at the age of seventy, and published *The Family Shakspeare*; in which the offensive passages of the poet have been removed with considerable taste and judgment. He performed the same work of expurgation on Gibbon's *Decline and Fall of the Roman Empire*. He was, also, the author of a volume of travels; a memoir of Lieutenant General Vilettes; and other works.

BOW'EL, *v. & n.* Fr. *boyau, boyaux*. Ju-BOW'ELS, nish thinks that the Eng-BOW'ELLESS, lish word is taken from-BOW'ELPRIER. } bow, to bend; to wind; to twist; on account of the folds and convolutions of the bowels within us: intestines, the vessels and organs within the body; the inner part of any thing; tenderness; compassion; the seat of pity or kindness.

His *bowels* did yearn upon him. *Genesis.*

He smote him therewith in the fifth rib, and shed out his *bowels*. *2 Sam. xx. 10.*

And the *bowel-prying* soothsayer (as it is reported) shewed to Decius the head of the liver on the inner side wounded (as it were) and cut off.

Holland. Livius.

His stalking steps stayde

Upon a shaggy oke which he had torne
Out of his mother's *bowelles*, and it made
His mortal mace, wherewith his foeman he dismayde. *Spenser.*

Had we no quarrel else to Rome, but that
Thou art thence banished, we would muster all
From twelve to seventy; and pouring war
Into the *bowels* of ungrateful Rome,
Like a bold flood appear. *Shakspeare.*

His soldiers spying his undaunted spirit,
A Talbot! Talbot! cried out again,
And rushed into the *bowels* of the battle. *Id.*

Hector gave Ajax a sword, which so long as he fought against enemies, served for his help and de-

fence; but after he began to hurt harmless creatures with it, turned to his own hurtless *bowels*.

Burton. Anat. of Mel.

He had no other consideration of money, than for the support of his lustre; and whilst he could do that, he cared not for money; having no *bowels* in the point of running in debt, or borrowing all he could.

Clarendon.

Miserable men commiserate not themselves; *bowel-*
less unto others, and merciless unto their own *bowels*.

Browne.

Nay you, yourselves, do sometimes find the paines
Of sickness in your *bowels* and your veins;
The harbingers of death, sometime begin
To take up your whole bodie for their inne.

George Wither.

As he saw drops of water distilling from the rock,
by following the veins, he has made himself two or
three fountains in the *bowels* of the mountain. *Addison.*

Behold at hand,

With three months training on his head,
An instrument whom I have bred,
Born of these *bowels* far from sight
Of virtue's false but glaring light;
My youngest born, my dearest joy,
Most like myself, my darling boy.

Churchill's Duellist.

They threw him [Edward II.] on a bed; held him down violently with a table, which they flung over him; thrust into his fundament a red-hot iron, which they inserted through a horis; and though the outward marks of violence upon his person were prevented by this expedient, the horrid deed was discovered to all the guards and attendants by the screams with which the agonizing king filled the castle while his *bowels* were consuming. This horrid murder was perpetrated 21st of September, 1327.

Hume. Hist. England.

BOWELS. See ANATOMY.

BOWER (Archibald), a writer of some celebrity, but principally remarkable for his religious vacillations was born near Dundee, of Catholic parents, in 1686. He received his education at the Scots College in Douay, after which he went to Rome, and became a member of the order of the Jesuits. In 1726 he settled at Macerata, where he enjoyed, as he states, the place of counsellor to the Inquisition, but quitted it in 1726, and fled to England, professing himself a convert to Protestantism. Here he was engaged as a tutor in a nobleman's family, and, for a while, conducted the *Historia Literaria*, a monthly review of books. He also wrote part of the *Universal History*, in sixty vols. 8vo. He is now said to have given, or lent, money to the society of the Jesuits, and to have purchased his re-admission among them about the year 1744. In 1748 he published, by subscription, the first volume of a *History of the Popes, and the same year*, through the interest of the honorable George Lyttleton, was appointed keeper of the queen's library. His history displayed such violent zeal against popery, as exposed him to the animadversions of Mr. Alban Butler, a learned Catholic; while its literary merits were at the same time severely canvassed by Dr. Douglas, afterwards bishop of Salisbury. His money transactions with the Jesuits coming, also, to light, he was now generally believed to be destitute of all moral or religious principle, and died, almost friendless, in 1766. Lord Lyttleton is said, however, always to have been his patron.

BOWER, v. & n. } Bower, in the present
BOWER-ANCHOR, } acceptation of the word,
BOWER'MAN, } signifies a seat shaded
BOWERY. } with boughs; an arbor;
Danish, *buur*, signifying a cage; Goth. and
Swed. *bur*; Sax. *bur*; Teut. *bauer*, a dwelling;
an apartment, from Goth. *bua*. Junius thinks
bower is so called because formed of the bows
or boughs of trees. Bower-anchor, with us, ap-
pears to be named from the bow of the ship;
but in Belgic from having a buoy attached to it.

What Alison! heres thou not Absolon,
That chanteth thus under our boures wal?

Chaucer's Canterbury Tales.

Full sooty was her boures, and eke her halle;
In which she ete many a slender mele;
Of poignant sauce ne knew she never a dele,
No deintee morsel passed through her throte,
Hire diete was accordant to hire cote. *Id.*

Full many a maide, bright in *bour*,
They mourned for him, par amour,
Whan hem were bet to slepe,
But he was chaste and no lechour,
And swete as is the bramble flour,
That beareth the red hepe.

Id. Rime of Sire Thopas.

And though they faulty were, yet wel he wayde,
That God to us forgiveth every howre
Much more than that why they in bands were layd;
And he that harrowed hell with heavy stowre,
The faulty soules from thence brought to his heavenly
bourne. *Spenser.*

From a close *bower* this dainty musique flowed—
A *bower* apparell'd round with divers roses,
Both red and white, which by their liveries showed
Their mistris faire, that there herself repotes;
Seemed that would strive with those rare musique
closes,

By spreading their faire bosomes to the light,
Which the distracted sense should most delight;
That raps the melted earc, this both the smel and
sight. *Id. Brittain's Ida.*

Thou didst *bower* the spirit
In mortal Paradise of such sweet flesh. *Shakspeare.*

Alone they passed
On to their blissful *bower*,—it was a place
Chosen by the sovran planter, when he framed
All things to man's delightful use; the roof,
Of thickest covert, was inwoven shade,
Laurel and myrtle, and what higher grew
Of firm and fragrant leaf; on either side
Acanthus and each odorous bushy shrub
Fenced up the verdant wall; each heauteous flower,
Iris, all hues, roses and jessamin
Reared high their flourished heads between and
wrought

Mosaic; underfoot the violet,
Jocus, and hyacinth, with rich inlay
Brodered the ground, more coloured than with store;
Of costliest emblem. *Milton.*

But O, sad virgin, that thy power
Might raise Musæus from his *bower.* *Id.*

The gods appealing, when I reach their *bowers*
With loud complaints, they answer me in shouers. *Waller.*

Prophet, take notice, I disclaim thy paradise,
Thy fragrant *bowers* and everlasting shades;
Thou hast placed woman there—and all thy joys
Are tainted. *Rouée's Tamerlane.*

Refreshed, they wait them to the *bower* of state,
Where, circled with his peers, Atrides sat. *Pope.*

Landscips how gay the *bowery* grotto yields,
Which thought creates, and lavish fancy builds!
Tickell.

Snaatched through the verdant maze, the hurried
eye

Distracted wanders; now the *bowery* walk
Of covert close, where scarce a speck of day
Falls on the lengthened gloom, protracted sweeps.

Thomson.

Let not the fervent tongue,
Prompt to deceive, with adulation smooth,
Gain on your purposed will: nor in the *bower*,
Where woodbines flaunt and roses weave a couch,
While Evening draws her crimson curtains round,
Trust your soft minutes to betraying man. *Id. Spring.*

Dear lovely *bowers* of innocence and ease,
Seats of my youth, where every sport could please;
How often have I loitered o'er thy green,
Where humble happiness endeared each scene.

Goldsmith's Deserted Village.

And, as in beauty's *bower* he pensive sate,
Poured forth this unpremeditated lay,
To charms as fair as those that soothed his happier
day. *Byron's Child Harold.*

BOWER, in gardening, differing only from an
arbor, as being round or square, and made with
a kind of dome or ceiling at top; whereas the
arbor is always built long and arched. This,
as well as the harbor, is generally formed of tim-
ber lattice work, sometimes of woven rods, or
wicker work, and occasionally of wire. It may
be shaded with fruit trees, or with climbing or
herbaceous shrubs.

BOWERS, in the sea language, are generally
two, called first and second, great and little, or
best and small bowers. See ANCHOR.

Bow ISLAND, an island in the South Pacific
Ocean, near the eastern extremity of the So-
ciety Isles. It was discovered by captain Cook
on the 5th of April 1769, during his first voyage.
It is about ten or twelve leagues in compass,
lies low, and is of a very extraordinary figure,
being shaped like a bow. The arch and cord
are land, the space between them water. The
cord is a flat beach, three or four leagues long, but
not above 200 yards broad to appearance. It is
entirely destitute of vegetation, exhibiting no-
thing but heaps of sea-weed, lying in ridges,
as they are left by the tide, but most of the arch
was seen covered by trees of different heights, and
smoke was seen rising from different parts of the
island. No bottom was found half-way along the
beach, with a line of 130 fathoms. Long. 141°
12' W., lat. 18° 23' S.

BOWL, v. & n. } The hollow of a cup;
BOWL'ER, } a wooden ball; a round
BOWL'ING, } mass: Goth. *dau*; and
BOWL'ING-GREEN. } Sax. *bolla*; Armoric, *beol*:
the Gothic word signified rotundity, either con-
cave or convex. To bowl is to play with bowls:
to roll any thing along; bowling-green, a smooth
shaven sward, prepared as the place for playing
at bowls.

Bring, eke, with you a *bolle*, or elles a pannc,
Ful of water: and ye shul wel see, thanne,
How that our businesse shal thrive and preve.

Chaucer. Cant. Tales.

And who can counsell a thirstie soule
With patience to forbear the offered *bowle.* *Spenser.*

But the main matter is so to convey the water,
as it never stay either in the *bowl* or in the cistern.

Bacon.

Give me a *bowl* of wine ;
I have not that alacrity of spirit
Nor cheer of mind that I was wont to have.

Shakespeare.

Like to a *bowl* upon a subtle ground,
I've tumbled past the throw.

Id.

How finely dost thou times and seasons spin ?

And make a twist checkered with night and day !

Which, as it lengthens, winds, and winds us in,

As *bowls* go on, but turning all the way. Herbert.

If a piece of iron be fastened on the side of a *bowl*
of water, a loadstone, in a boat of cork, will make
unto it.

Brown.

A *bowl* equally poised, and thrown upon a plain
bowling-green, will run necessarily in a direct line.

Bentley.

Like him, who would lodge a *bowl* upon a precipice,
either my praise falls back, or stays not on the
top, but rows over.

Dryden.

Men may make a game at *bowls* in the summer,
and a game at whist in the winter.

Dennis's Let.

Though that piece of wood, which is now a *bowl*,
may be made square, yet, if roundness be taken away,
it is no longer a *bowl*.

Watts's Logic.

With flowing *bowls* from life's eternal spring

And heavenly fruits refresh my fainting soul. Rowe.

Meantime the vigorous dancers beat the ground,

And songs were sung, and flowing *bowls* went round.

Pope.

Did not the painted kings of India greet

Our queen, and lay their sceptres at her feet :

Chiefs who full *bowls* of hostile blood had quaffed,

Famed for the javelin and envenomed shaft,

Whose haughty brows made savages adore,

Nor bowed to less than stars or suns before.

Tickell's Miscellanies.

Death leads the dance, or stamps the deadly die,
Nor ever fails the midnight *bowl* to crown.

Young's Night Thoughts.

BOW-LEGGED, or BANDY-LEGGED. Some children are bow-legged from their birth; others become so from setting them on their feet too early. The tibia of some is crooked; the knees of others are distorted; from a fault in the ankle, the feet of some are turned inwards. These are called *vari*; and in others, who are called *valgi*, they are turned outwards. The best method of preventing these disorders in weakly children is to exercise them duly, but not violently, by tossing them about in one's arms; and not setting them much upon their feet, at least not without properly supporting them; if the disorder attends at the birth, or increases after it is begun, apply emollients, then boots of strong leather, wood, &c. so as gradually to dispose the crooked legs to a proper form. Other instruments may be used instead of boots, which, when not too costly, are usually to be preferred. Slighter instances of these disorders yield to careful nursing, without instruments. The cold bath has been recommended, and may often be of service; but if the child be very weak, it will do more hurt than good. A strengthening diet will always be of service.

BOW'LINE, *s.* a cord fastening the sails of a ship. Swed. *boglina*, *bolin*; Belg. *boelyn*; Fr. *boline*. From *bunt*, swelling with the wind; and *line*, a slender string. Lat. *linca*; Fr. *line*.

BOW-LINES are only used when the wind is so unfavorable that the sails must be all braced sideways, or close hauled to the wind. In this situation the bow-lines are employed to keep the weather or windward edges of the principal sails tight, forward, and steady, without which they would always be shivering, and rendered incapable of service. To check the bow-line is to slacken it, when the force of the wind requires it.

BOWLING, the art of playing at bowls. This game is practised either in open places, as *bare* and *bowling-greens*, or in close *bowling-alleys*. The sides being selected, each player has two bowls, which have numerical figures, to ascertain to whom they belong. The leader sends off a smaller bowl, called the *jack*, to what distance he pleases, it being by the toss his privilege so to do: this he follows with his first bowl, getting as near the *jack* as possible: he is then followed by one of the adverse party, the partner of the first following, and so in rotation till all the bowls are played; as many of the bowls, on either side, as are nearer to the *jack* than the nearest on the opposite side, so many do the successful party score that time towards the game, and so on in succession, till one side or the other have won the match. Sometimes, a ball, lying very near the *jack*, is removed to a distance by the hit of an adversary's bowl, which remains nearer the *jack* than the bowl it has driven away: this is called a *rub*. Strutt gives a plate from a manuscript preserved in the Royal Library, 20 Ed. IV., which represents bowling, as early as the thirteenth century. It was, at one time, a game in great repute in the higher ranks of society. Charles I. was fond of it, and it formed, according to *comte de Grammont*, a daily share in the diversions of the court of Charles II. at *Tunbridge*.

BOW-NET, or BOW-WHEEL, an engine for catching fish, chiefly lobsters and *craw-fish*, made of two round wicker baskets, pointed at the end, one of which is thrust into the other; at the mouth is a little rim, four or five inches broad, somewhat bent inwards. It is also used for catching sparrows.

BOW'SPRIT, *s.* The mast projecting from the bow of a ship. From *bow* and *sprit*; *sprit* signifies to shoot, spurt, spout. Goth. *sprida*, *sprita*; Swed. *spruta*, to eject; Belg. *spriet*; the spar in a ship called the bowsprit.

Sometimes I'd divide,

And burn in many places; on the topmast,

The yards, and *boltsprits*, would I flame distinctly.

Shakespeare.

Then on the leeward sheet the seamen bend,

And haul the *bowline* to the bowsprit end.

Falconer's Shipwreck.

BOWSPRIT, a large boom or mast, which projects over the stem, to carry sail forward, in order to govern the fore part of a ship, and counteract the force of the after-sails. It is otherwise of great use, as being the principal support of the fore-mast, by confining the stays whereby it is secured. See *STAY*. The rule for the rise of the bowsprit is an angle of nearly thirty-six degrees above the horizon.

The bowsprit should be two-thirds the length of the main-mast, and its thickness equal to the

mizen-mast: when it is twelve fathoms five feet long, its yards must be eight fathoms two feet long, and the topmast of the bowsprit three fathoms and one foot.

A BOWYER, or BOWMAKER, was anciently a distinct business from a fletcher, or arrow-maker. The company of bowyers was incorporated so late as 1620, and consists of a master, two wardens, twelve assistants, and thirty on the livery.

BOWYER (William), the most learned printer of his age, was born at White Friars, London, Dec. 17th, 1699. His father, whose name also was William, had been eminent in the same profession; and his maternal grandfather, Ichabod Dawks, was employed in printing bishop Walton's celebrated Polyglott Bible. Having acquired a grammatical education, under Mr. Ambrose Bonwicke, he made great advances in literature, and a firm attachment commenced betwixt him and his master. On the 30th Jan. 1713, his father's whole property being destroyed by fire, Mr. Bonwicke generously undertook the education of his pupil for another year. In 1716 young Bowyer was admitted a sizar at St. John's College, Cambridge, where he continued under Dr. Newcombe till June, 1722. Soon after this he had an opportunity of repaying Mr. Bonwicke's kindness, by officiating, some time after his death, as a schoolmaster for the benefit of his family. He next entered into the printing business along with his father. One of the first books which received the benefit of his correction was the complete edition of Selden in 3 vols. fol. by Dr. David Wilkins. It was begun in 1722, and finished in 1726; and Mr. Bowyer's great attention to it appeared in his drawing up an epitome of Selden de Synedriis, as he read the proof sheets. In 1727 he drew up an excellent sketch of W. Baxter's Glossary of the Roman Antiquities; called A View of a Book Entitled Reliquiæ Baxterianæ: in a letter to a friend; one sheet 8vo. By this first public proof of his abilities, Dr. Wotton and Mr. Clarke were highly pleased; but as it was never published, and very few copies printed, it is very seldom found with the glossary. In Oct. 1728 he married Miss Ann Prudom, his cousin, a very accomplished lady, by whom he had two sons; of whom William survived him. In 1729 he published a curious treatise, entitled, A Pattern for Young Students in the University; set forth in the life of Ambrose Bonwicke, some time scholar of St. John's College, Cambridge; which was generally ascribed to Mr. Bowyer, though it was in reality written by Mr. Bonwicke the elder. About this time Mr. Bowyer had written a pamphlet against the Separatists, though neither the title nor the occasion of it are now remembered. The same year, through the friendship of the R. H. Arthur Onslow, he was appointed printer of the votes of the House of Commons; which office he held for nearly fifty years. In 1731 he published, and, it is believed, translated Voltaire's Life of Charles XII. This year also his wife dying, he remained a widower till 1747, when he married Mrs. Elizabeth Bill, by whom he had no children. In 1733 he published, in two sheets 4to, The Beau and the Academic, being a translation from a Latin poem

recited that year at the Sheldonian theatre; and, in 1736, he was admitted into the Society of Antiquaries, where he became a useful member. In 1742 he published a translation of Trapp's Latin Lectures on Poetry, in which he was assisted by Mr. Clarke. In 1750 he annexed a prefatory critical dissertation, and some notes, to Kuster's Treatise De Usu Verborum Mediorum; a new edition of which, with farther improvements, appeared in 1773. He wrote likewise, about the same time, a Latin preface to Leedes's Veteres Poetæ Citati, &c. Being soon after employed to print an edition of Col. Bladen's translation of Cæsar's Commentaries, that work received considerable improvements from Mr. Bowyer's hands, with the addition of such notes in it as are signed Typogr. In 1751 he wrote a preface to Montesquieu's Reflections on the Rise and fall of the Roman Empire; translated the Dialogue between Sylla and Socrates; made several corrections to the work from the Baron's Spirit of Laws, and improved it with his own notes. A new edition, with many new notes, was printed in 1759. In 1751 he published the first translation that ever was made of Rousseau's paradoxical Oration, which gained the prize at the academy of Dijon in 1750; and which first announced that singular genius to the attention and admiration of Europe. On the publication of the third edition of Lord Orrery's Remarks on the Life and Writings of Dr. Swift, in 1752, Mr. Bowyer wrote and printed, but never published, Two Letters from Dr. Bentley in the Shades below, to Lord Orrery in a Land of Thick Darkness. The notes signed B, in the ninth 4to. vol. of Swift's works, are extracted from these letters. In 1753 he endeavoured to allay the ferment occasioned by the Jew bill; with which view he published, in 4to., Remarks on the Speech made in Common Council, on the Bill for permitting Persons professing the Jewish Religion to be Naturalised, so far as Prophecies are supposed to be affected by it. This little tract was written with spirit, and well received by all who were superior to narrow prejudices. Its design was to show that Christianity was in no danger of being prejudiced by the intended protection promised to the Jews. The same year some of Mr. Bowyer's notes were annexed to Bishop Clayton's Translation of A Journey from Grand Cairo to Mount Sinai and back again. In 1761 Mr. Bowyer was appointed printer to the Royal Society, through the interest of the earl of Macclesfield; and enjoyed that office till his death. In 1763 Mr. Bowyer published an excellent edition of the Greek Testament, in two vols. 12mo., which sold with great rapidity: the Conjectural Emendations were well received by the learned, and are thought valuable. The president and fellows of Harvard College, in Cambridge, expressed their approbation of this edition in very high terms; and reckoned it of more value than many large volumes of the commentators. A second edition of the Conjectures on the New Testament, with enlargements, was published in one vol. 8vo. in 1772. Dr. Warburton's Divine Legation received very considerable advantage from Mr. Bowyer's corrections; and this even in an edition which was necessarily given to another press. In

1761 he printed his *Doctrine of Grace*. In 1765, at the request of Thomas Hollis, Esq., Mr. Bowyer wrote a short Latin preface to Dr. Wallis's *Grammatica Linguae Anglicanae*. He wrote also a large English preface for it, which, however, still remains unprinted. In 1766 he wrote an excellent Latin preface to Joannis Harduini, Jesuite, ad *Censuram Scriptorum veterum Prolegomena*. Juxta Autographum. In 1767 he was appointed to print the Journals of the House of Lords, and the Rolls of Parliament. This year he printed Mr. Clarke's learned work on *The Connexion of the Roman, Saxon, and English Coins*; and wrote some notes upon it, which are interspersed with those of the author. Part of the Dissertation on the Roman Sesterce was likewise Mr. Bowyer's; and the index, which is an uncommonly good one, was drawn up by him entirely. In 1771 he printed a small pamphlet, entitled, *Remarks*, occasioned by a late Dissertation on the Greek and Roman Money. In 1773 he published three tracts, entitled *Select Discourses*. 1. Of the correspondence of the Hebrew months with the Julian, from the Latin of Professor Michaelis. 2. Of the Sabbatical years, from the same. 3. Of the years of jubilee, from an anonymous writer in *Masson's Histoire Critique de la Republique des Lettres*. In 1774 he corrected a new edition of Schrevelius's Greek Lexicon; to which he added a number of words (distinguished by an asterisk) which he had collected in the course of his studies. Considerable additions, still in MS., were made by him to the lexicons of Hederic and Buxtorf, the Latin ones of Faber and Littleton, and the English Dictionary of Bailey; and he left behind him many other proofs of his critical skill in the learned languages. In 1774 was published *The Origin of Printing*, in two essays. 1. The substance of Dr. Middleton's Dissertation on the Origin of Printing in England. 2. Mr. Meerman's Account of the Invention of the Art at Haarlem, and its Progress to Mentz, with Occasional Remarks, and an Appendix. The original idea of this valuable tract was Mr. Bowyer's; but it was completed by Mr. Nichols. During the last ten years of his life he was afflicted with the palsy and stone; yet he not only preserved a remarkable cheerfulness of temper, but was enabled to support the labor of almost incessant reading; and he regularly corrected the learned works, especially the Greek books, which came from his press. This he continued to do till near his death, which happened in November 1777, in his seventy-eighth year. For more than half a century Mr. Bowyer was unrivalled as a learned printer; and many of the most masterly productions of this kingdom have come from his press. To his literary and professional abilities he added an excellent moral character; and he was particularly distinguished by his inflexible probity, and an uncommon alacrity in relieving the necessitous. His life and character have been much illustrated by Mr. Nichols' *Anecdotes*, 1782.

BOX', s. Sax. *box*; *boxus* Latin, a shrub. The leaves are pennated and evergreen; it hath male flowers, that are produced at remote distances from the fruit, on the same tree; the fruit is shaped like a porridge-pot inverted, and

is divided into three cells, containing two seeds in each, which, when ripe, are cast forth by the elasticity of the vessels. The wood is very useful for engravers and mathematical instrument makers; being so hard, close, and ponderous, as to sink in water.—*Miller*.

There are two sorts; the dwarf *box*, and a taller sort. The dwarf *box* is good for borders, and is easily kept in order, with one clipping in the year. It will increase of slips set in March, or about Bartholomew tide; and will prosper on cold barren hills, where nothing else will grow. *Mortimer*.

Box', v. & n. } The substantive, signifies a
Box'EN. } case of wood. Sax. *box*, *bosg*;
Belg. *bus*; Teut. *buchse*; Armoric, *boest*; Fr. *boete*. These all signify a box or tube, and are supposed to be from *burus*, Lat.; Russ. and Scot. *boss*, means hollow; void; a case; a small chest; an enclosed spot; a snug dwelling.

This cursed man hath, in his hand, yhent,
This poison in a *box*. *Chaucer's Canterbury Tales*.

Thin ypocras, and eke thy galianes,
And every *boiste* full of thy lectuarie,
God bless hem and our lady Seinte Marie. *Id.*

This messenger drank sadly ale and wine,
And stolen were his lettres prively
Out of his *box*, while he slept as a swine. *Id.*

A magnet, though put in an ivory *box*, will, through
the *box*, send forth his embracing virtue to a beloved
needle. *Sidney*.

Prince Arthur gave a *boxe* of diamond sure,
Embowed with gold and gorgeous ornament,
Wherein were closed few drops of liquor pure,
Of wondrous worth, and vertue excellent,
That any wound could heale incontinent. *Spenser*.

He was, to weete, a stout and sturdy thiefe,
Wont to rob churches of their ornaments,
And poore men's *boxes* of their due reliefe. *Id.*

About his sheldes

A beggarly account of empty *boxes*. *Shakspeare*.

Upon his belt (fastened with leather laces),
Black *boxes* hung, sheaths of his paper—swords
Filled up with writs, subpoenas, trial cases.

Fletcher's Purple Island.

Is it a *box* of pills

To cure the duke's ills?

He is too far gone to begin it!

Or does your fine show

In procession go

With the pix and the host within it. *Marvell*.

The young gentlemen learned, before all other
things, to design upon tablets of *boxen* wood. *Dryden*.

Her faded cheeks are changed to *boxen* hue,
And in her eyes the tears are ever new. *Id.*

'Tis lost to you; the *boxes* and the pit
Are sovereign judges of this sort of wit. *Id.*

She glares in balls, front *boxes*, and the ring;
A vain, unquiet, glittering, wretched thing. *Pope*.

This casket India's glowing gems unlocks,
And all Arabia breathes from yonder *box*. *Id.*

'Twas this the morning omens seemed to tell;
Thrice from my hand the trembling patch-*box* fell.

Id. Rape of the Lock.

Box'd in a chair, the beau impatient sits,
While spouts run clattering o'er the roof by fits.

Swift.

One who makes himself talked of, though it be for
the particular cock of his hat, or for prating aloud in
the *boxes* at a play, is in a fair way of being a favor-
ite. *Spectator*.

As lads and lasses stood around,
To hear my *boxen* hautboy sound. *Gay*.

Sir Traffic's name, so well applied,
 Awaked his brother-merchant's pride ;
 And Thrifty, who had all his life
 Paid utmost deference to his wife,
 Confessed her arguments had reason ;
 And by the approaching summer season
 Draws a few hundreds from the stocks,
 And purchases his country *box*. *Lloyd.*

Box, *v. & n.*, to fight with fists; *Swed. bocka*; *Teut. bocken*; *Belgic, beuken*; signifying to strike, or probably to butt like a buck goat: and it is possible that this may have been the origin of our word; for in America butting was more used than what is now called boxing: *Gr. πρῆξι*; *Lat. pugio*; *Ro-maunce pois*, however, signifies the first.

For the *box* o' th' ear that the prince gave you, he gave it like a rude prince. *Shakspeare.*

If one should take my hand perforce, and give another a *box* on the ear with it, the law punisheth the other. *Bramhall.*

There may happen concussions of the brain from a *box* on the ear. *Wiseman's Surgery.*

Olphis, the fisherman, received a *box* on the ear from Thestylis. *Addison's Spectator.*

The fighting with a man's shadow consists in brandishing two sticks loaded with plugs of lead; this gives a man all the pleasure of *boxing*, without the blows. *Id.*

He hath had six duels, and four-and-twenty *boxing* matches in defence of his majesty's title. *Id.*

The ass very fairly looked on, till they had *boxed* themselves a-weary, and then left them fairly in the lurch. *L'Estrange.*

A leopard is like a cat; he *boxes* with his fore-feet as a cat doth her kittens. *Grew.*

Box is also used for an uncertain quantity or measure; thus a box of quicksilver contains from 100 to 200 lbs.; a box of prunellas only 14 lbs.; a box of rings for keys, two gross, &c. See also *DICE Box*, and similar compounds of *Box*, in their order.

Box, in botany. See *BUXUS*.

BOXERS, among the Romans, were called pugiles. The ancient boxers battled with great force and fury, insomuch as to dash out each others' teeth, break bones, and often kill each other. The strange disfigurements these boxers underwent were such that they frequently could not be known, and rendered them the subject of many railleries. In the Greek anthology there are four epigrams of Lucilius, and one of Lucian, wherein their disfigurements are pleasantly enough exposed.

BOX-HAULING, in sea language, a particular method of veering a ship, when the swell renders tacking impracticable; performed by keeping the helm hard-a-lee, and hauling off all; bracing about the head as well as the after-sails, hauling close forward the lee, fore and fore-top-boomlines, and up mizen and down after-stay-sails at the same time; the wind will then act upon the sails thus aback, and the water upon the lee-side of the rudder, by her stern way, will box the ship short round upon her keel, with her stern up to the wind, far enough aft for the after-sails to draw full the right way to act with the helm, which must be shifted hard-a-weather, when the stern-way ceases, so that the head-way with the wind so far aft will readily bring the ship round on the other tack. The main and fore-

tacks are easily got down when the wind is upon the quarter, and shivers the sails; the main-sheet is easily hauled aft, and the after-sails braced up and trimmed sharp, as the ship brings the wind more aft, which helps her round the faster, till the wind comes on the other quarter, that the mizen and mizen-stay-sail may be set to take the right way to bring her to the wind, while you tend and trim the head-sails as she comes home.

BOXHORNUS (Marc Zuerius), a learned critic, born at Bergen-op-Zoom in 1612, was professor of eloquence at Leyden, and at length of politics and history in the room of Heinsius. He published, 1. *Theatrum Urbium Hollandiæ*. 2. *Scriptores Historiæ Augustæ, cum Notis*. 3. *Poetæ Satyrici Minores, cum Comment.* 4. *Notes on Justin, Tacitus*, and a great number of other works. He died in 1653, aged forty-one.

BOXING, the exercise of fighting with the fists, either naked or with a stone or leaden ball grasped in them. It coincides with the pugilatus of the Romans. When the champions had *σφαραι*, or balls, whether of lead or stone, it was properly denominated *sphæromachia*. The ancient boxing differed from the pugna cæstum, in which the combatants had leathern thongs in their hands, and balls to assault their antagonists; though this distinction is frequently overlooked, and fighting with the cæstum ranked as a part of the business of pugiles. There were three species of boxing, viz. 1. both the head and hands naked; 2. the hands armed, and the head naked; and, 3. the head covered with a kind of cap called *amphotides*, and the hands also furnished with the cæstum. Boxing is an ancient exercise, having been in use in the heroic ages. Those who prepared themselves for it, used all the means that could be contrived to render themselves fat and fleshy, that they might the better endure blows: whence corpulent men or women were called pugiles. In modern times this art has been in a manner appropriated by the English. A century ago, it formed a regular exhibition, encouraged by the first ranks of the nobility, and tolerated by the magistrates. A booth was erected at Tottenham Court, in which the proprietor, Mr. George Taylor, invited the professors of the art to display their skill, and the public to be present at their exhibition. The bruisers then had the reward due to their prowess, in a division of the entrance-money, which was sometimes £100 or £150. The general mode of sharing was for two-thirds to go to the winning champion, while the remaining third was the right of the loser; though sometimes by an express agreement of the parties, the conqueror and the vanquished shared alike. The nobility and gentry having complained of the inconveniences sustained at Taylor's Booth, prevailed on Mr. Broughton, who was then rising into note as the first bruiser in London, to build a place better adapted for such exhibitions. This was accordingly done in 1742, principally by subscription, behind Oxford road. The building was called Broughton's New Amphitheatre; and, besides the stage for the combatants, had seats corresponding to the boxes, pit, and galleries. After a course of years, however, these exhibitions became gradually less

patronised and frequented. Once, indeed, they seemed to be reviving, and for some time considerably engaged the attention of the public: but a fatal issue which attended 'one of them, brought the practice again into disrepute. One of the combatants was killed on the spot. The Prince of Wales was present, and declared he would have some settlement made on the nearest relation of the deceased, but that on account of the dreadful example he had then witnessed, he would never either see or patronise another stage fight.

BOXING, among sailors, is used to denote the rehearsing the several points of the compass in their proper order.

BOXING is also used for the tapping of a tree to make it yield its juice. The boxing of maple is performed by making a hole with an axe or chissel into the side of the tree about a foot from the ground; out of it flows a liquor of which sugar is made.

BOXTEL, a market town of the Netherlands, in Dutch Brabant, situated on the Dommel. It contains about 3000 individuals, and is provided with several sluices. Near this town an engagement took place, on the 14th of August, 1794, between the French army and allied British and Dutch troops, under the command of his Royal Highness the Duke of York, which ended in the defeat of the latter, and obliged him to retire behind the Maese. It is about five miles south of Bois-le-Duc.

BOY, *v. & n.* } A male child; a lad; Per-
BOY BLIND, { sian, *buch*; Goth. *buog*, *buick*,
BOY'ERY, { *puick*; Danish. *pog*; Swed.
BOY'ISH, { *bagge*; Irish, *buai*: the root
BOY'ISM, { of this word seems to be
BOYSHIP. } Gothic, *ug*; Irish, *og*, young;
Armoric, *buchel*, and Fr. *puceau*, are from Lat. *puellus*: the verb, and sometimes the noun, is used contemptuously.

Our first fo, the serpent Sathanas,
That hath in Jewes herte his waspes nest,
Up swale and said; O, Ebraike people, alas!
Is this to you a thing that is honest,
That swiche a *boy* shal walken as him leste
In your despit, and sing of swiche sentence,
Which is again our lowes reverence?

Chaucer. *Cunt. Tales.*

One day it chanced, thrice happy day and chance!
While Loves were with the Graces sweetly sporting,
And to fresh musique sounding, play, and dance,
And Cupid's self, with shepherds' *boys* consorting,
Laughed at their pritty sport and simple courting,
Faire Venus seats the fearful *boy* close by her,
Where never Phœbus' jealous looks might eye her,
And bids the *boy* his mistress and her name descry
her.

Spenser's *Britain's Ida.*

Anthony
Shall be brought drunken forth, and I shall see
Some squeaking Cleopatra *boy* my greatness,
I' th' posture of a whore. Shakspeare.

Where is this Hector?

Come, come thou *boy*-queller, show thy face;
Know what it is to meet Achilles angry. Id.

Speak thou, *boy*,

Perhaps thy childishness will move him more
Than can our reasons. Id. *Coriolanus.*

They called the children that were past infancy
two years, *irene*; and the greatest *boyes*, *melirenes*;

as who would say, ready to go out of *boyery*. This *boy*, who was made overseer of them, was commonly twenty years of age. North. *Plutarch.*

Or must his *boyship* prey

On all our seniorities.

Beaumont.

A lytle *boy* among them asked,

What meaneth that gallow-tree?

They sayde, to hang a good yeaman,

Called Wyllyame of Cloudesie.

Old *Ballad of Adam Bell, &c.*

Put case be cured he so *boyblind* and foolish.

Beaumont and Fletcher.

So lost his treasure, getting nought in lieu,
But ostentation of a foolish pride,
While women fond, and *boys* stood gaping wide;
But wise men all his waste, and needless cost
deride. Fletcher's *Purple Island.*

Thus night, oft see me in thy pale career,
Till civil-suited morn appear,
Not trickt and frowncd as she was wont
With the attie *boy* to hunt,
But kercheft in a comely cloud,
While rocking winds are piping loud.

Milton. *Il Penseroso.*

If you should look at him in his *boyhood*, through
the magnifying end of a perspective, and, in his man-
hood, through the other, it would be impossible to spy
any difference: the same air, the same strut. Swift.

He had complained he was farther off, by being so
near, and a thousand such *boyisms*, which Chaucer
rejected as below the subject. Dryden.

Thanks to the gods, my *boy* has done his duty!

—Portius, when I am dead, be sure you place

His urn near mine. Addison's *Cats.*

A wife he takes; and now for heirs,

Again he worries heaven with prayers.

Jove nods assent: two hopeful *boys*

And a fine girl reward his joys. Gay's *Fables.*

Two *boys*, whose birth, beyond all question, springs
From great and glorious, though forgotten kings,
Shepherds of Scottish lineage, born and bred
On the same bleak and barren mountain's head.

Churchill's *Prophecy of Famine.*

And I have loved thee, ocean! and my joy
Of youthful sports was on thy breast to be
Borne, like thy bubbles, onward: from a *boy*
I wantoned with thy breakers—they to me
Were a delight; and if the freshening sea
Made them a terror—'twas a pleasing fear;
For I was as it were a child of thee,
And trusted to thy billows far and near,
And laid my hand upon thy mane—as I do here.

Byron's *Childe Harold.*

The little shepherd in his white capote

Doth lean his *boyish* form along the rock,

Or in his cave awaits the tempest shock. Id.

BOYAU, in fortification, a ditch covered with
a parapet, which serves as a communication be-
tween two trenches. It runs parallel to the
works of the body of the place; and serves as a
line of contravallation, not only to hinder the
sallies of the besieged, but also to secure the
mines. But when it is a particuilar cut that runs
from the trenches to cover some spot of ground,
it is drawn so as not to be enfiladed or scoured
by the shot from the town.

BOYCE (William), Mus. D., was a native
of London, and pupil of Dr. Maurice Greene,
organist of St. Paul's, who bequeathed him a
valuable collection of church music. Though
afflicted with deafness, which finally increased
to such a degree as to render him almost insensi-
ble of sound, he acquired an uncommon pro-

ficiency in music, and in 1736 was chosen organist to the church of St. Michael, Cornhill; and organist and composer to the Chapel Royal. In 1749, he was honored with the degree of doctor of music, and succeeded Dr. Greene in 1757, as master of the king's band. His fame chiefly rests on his sacred compositions. Dr. Burney says that 'there is an original and sterling merit in his productions, founded as much upon the study of our own old masters as on the best models of other countries, that gives to all his works a peculiar stamp and character, for strength, clearness and facility, without any mixture of styles or extraneous ornaments.' He died of the gout in 1779, at the age of sixty-eight, and was buried in St. Paul's cathedral.

BOYD (Mark Alexander), an extraordinary genius, was son of Robert Boyd of Pinkhill. He was born at Galloway in 1562, and came into the world with teeth. The rudiments of Latin and Greek were taught him at Glasgow; but he was of so high and untractable a spirit, that his tutors despaired of ever making him a scholar. Having quarrelled with them, and burnt his books, he foreswore learning, and went into the French army. Having dissipated his little fortune, he became roused by that emulation which is natural to great minds, and applied himself to letters with unremitting ardor, till he rose to be one of the most consummate scholars of his age. He is said to have translated Cæsar's Commentaries into Greek, in the style of Herodotus, and to have written many Latin poems, little inferior to the productions of the Augustan age. He also left several MSS. on philological, political, and historical subjects, in the Latin and French languages. He could with facility dictate to three amanuenses at the same time, in different languages, and on different subjects. He was also one of the best Scottish poets of the age. And his personal beauty and accomplishments were equal to his mental superiority. He died at Pinkhill, in 1601. The following works of his, which are all that have been printed, were published in *Deliciæ Poetarum Scotorum*; Amstel. 1637, 12mo. 1. *Epigrammata*, lib. ii. 2. *Heroidem Epistolæ* XIV. lib. i. 3. *Hymni* XIV.

BOYD (Hugh Macauley), was educated at Trinity College, Dublin, and intended for the bar; but coming to London he dissipated his fortune, and then went to Madras as secretary to Lord Macartney, and died there in 1794. He was once honored with being thought the author of the Letters of Junius, but the publication of his political tracts, in two vols. 8vo, sufficiently refuted this extravagant claim.

BOYDEL (John), Alderman of London, and Lord Mayor in 1790; was born in Staffordshire in 1719, and intended for a land surveyor, which was his father's occupation; but accidentally meeting with Baddeley's Views of different Country seats, he conceived a strong inclination for engraving, and when about twenty, bound himself apprentice for seven years to a Mr. Toms, a London artist. In 1745 he published some small landscapes, and afterwards a volume of Views near London. With the profits of these works he commenced business as a printseller,

and soon established for himself a high reputation as the patron of ingenious artists. He employed Woollet to engrave the celebrated pictures of Niobe and Phaeton, and gradually established an extensive export trade in English prints. Having established an English school of engraving, with which his name will long be connected, he engaged the first artists of the day to furnish a collection of pictures, known as the Shakspeare Gallery. The funds of his business falling short during the war, he was induced in 1804 to obtain an act of Parliament to permit him to dispose of his gallery and paintings by lottery, and lived to see every ticket disposed of, but died before his lottery was drawn, on the 12th of December, 1804. He was succeeded in business by his nephew, Alderman Josiah Boydell, who also practised the art of engraving. The latter resigned his gown some time before his decease, in 1818.

BOYER (Abel), an eminent historiographer, born at Castres in France, in 1664. He went first to Geneva on the revocation of the edict of Nantz, then to Franeker, and finally to England, where he applied himself so closely to the study of the language, that he became an author of considerable note, and was employed in several periodical and political works. He, for many years, had the principal management of a newspaper called the *Post-boy*. He likewise published monthly, a work, entitled, the *Political state of Great Britain*, and he wrote a life of Queen Anne in folio, which is esteemed a very good chronicle of that period; but he is most celebrated for his *Dictionary and Grammar of the French language*, which are still in use. He also wrote, or rather translated from the French of Racine, the tragedy of *Iphigenia*, which he published under the title of *The Victim*. It was performed with success at the theatre of Drury Lane, and affords a strong proof of the abilities of its author. He died in 1729.

BOYER, in navigation, a kind of Flemish sloop, or small vessel of burden, having a bolt-split, a castle at each end, and a tall mast: chiefly fit for the navigation of rivers, and in many of its parts resembles a smack.

BOYLE (Charles), earl of Orrery, and baron Marston, the second son of earl Roger, was born in August 1679. He was educated at Christ-church in Oxford, and became distinguished as an author, a soldier, and a statesman. He translated the life of Lysander from the Greek of Plutarch; and published a new edition of the epistles of Phalaris, which engaged him in a literary dispute, respecting the genuineness of these epistles against Dr. Bentley. See BENTLEY. He was three times member for Huntingdon; but his elder brother, Lionel earl of Orrery, dying on the 23d of August 1703, without issue, he succeeded to that title: and, entering into the queen's service, had a regiment given him. In 1709 he was raised to the rank of major-general, and sworn one of her majesty's privy council. Shortly after he was appointed the queen's envoy to Brabant and Flanders; and having honorably discharged the trust, created a British Peer, by the titles of lord Boyle, and

baron Marston. He enjoyed several other additional honors in the reign of king George I.; but falling under the suspicion of being concerned in laying a plot, he was committed to the tower for six months. He died August 22nd, 1731. His title was given as a name to a celebrated astronomical instrument, invented by a Mr. G. Graham whom he patronised. He also published a comedy called *As you find it*; a copy of verses to Dr. Garth upon his Dispensary; and a prologue to Southerne's play of the siege of Capua.

BOYLE, (John), earl of Cork and Orrery, a nobleman distinguished by his learning and genius, was the only son of earl Charles, and was born on the 2d of January 1707. He was educated at Westminster, and at Christ-church College, Oxford. His works were, 1. The Letters of Pliny the Younger, with Observations, &c. 2 vols. 4to. 2. Remarks on the Life and Writings of Dr. Swift, Dean of St. Patrick's, Dublin. 3. Memoirs of the Life of Robert Cary, earl of Monmouth. 4. The Discourse upon the Theatre of the Greeks. 5. The Original of Tragedy. 6. The Parallel of the Theatres. 7. Letters from Italy, a posthumous work. He died in 1762.

BOYLE, (Richard), a statesman of the seventeenth century, sometimes styled the great earl of Cork, was the youngest son of Mr. Roger Boyle, of Herefordshire, and born at Canterbury, October 3rd 1566. He studied at Bennet college, Cambridge; and afterwards became a student in the Middle Temple. Unable to support himself in the prosecution of his studies, he became clerk to Sir Richard Manwood, chief baron of the exchequer; but finding his employment far from lucrative, he went to Ireland in 1588, and was employed by several members of the Irish government, in drawing up memorials, cases, &c. In 1595 he married Joan the daughter of William Ansley, of Pulborough, Esq. who dying in labor of her first child, left him an estate of £500 a-year in land. Some time after, he was accused by Sir H. Wallop and others, of being a spy in the pay of the king of Spain. Upon this, he was taken up and his papers searched; but having fully vindicated himself in presence of queen Elizabeth, and laid open the villainy of Wallop, she not only liberated him, but appointed him clerk of the council of Munster, and recommended him to Sir G. Carew, the president. After this, by his various services, and the great abilities he displayed, he gradually rose to the highest offices, and was at last raised by James I. to the peerage of Ireland; by the title of baron Youghall. In 1620 he was created viscount Dungarvan and earl of Cork; and in 1631 lord treasurer of Ireland, an office that was made hereditary to his family. In 1603 he married Mrs. Catherine Fenton, daughter of Sir George Fenton, Secretary of State. He afterwards distinguished himself by the noble stand he made for king Charles I. He turned the castle of Lismore, his capital seat, into a fortress; armed and disciplined his servants and protestant tenants; and by their assistance, and a small army raised and maintained at his own expense, which he put under the command of his four

sons, he defended the entire province of Munster, and in the space of a year took several strong castles, and killed upwards of 3000 of the enemy, paying his forces all the time regularly; and when all his money was gone, he converted his plate into coin. This great man died in 1644, aged seventy-eight.

BOYLE, (Robert), one of the greatest philosophers, as well as best of men, that any nation has ever produced, the seventh son and fourteenth child of Richard, earl of Cork, was born at Lismore, January 23rd 1626-7. In 1635, his father sent him to Eton, under Sir Henry Wotton, who was the earl of Cork's old friend and acquaintance. Here he soon discovered a surprising force of understanding, and a disposition to cultivate and improve it to the utmost. In 1638 he attended his father in London; and remained with him at the Savoy, till in October he was sent abroad with his brother Mr. Francis Boyle, under the care of Mr. Marcombes. During his stay at Geneva, Mr. Boyle resumed his acquaintance with the mathematics. In September 1641 he quitted Geneva, and spent the winter at Florence. Here he devoted himself to reading modern history in Italian, and the works of the celebrated astronomer Galileo, who died in a neighbouring village during Mr. Boyle's residence. About the end of March, 1642, he quitted Florence for Rome, and had the fortune he tells us, to see Pope Urban VIII. at chapel, with the cardinals, who severally appearing mighty princes, in that assembly looked like a company of common friars. He returned to Florence; from thence to Leghorn; and so by sea to Genoa: then passing through Nice, he crossed the sea to Antibes, where he exposed himself to some danger for refusing to honor the crucifix: from thence he went to Marseilles by land. He was in that city in May 1642, when he received his father's letters, which informed him of the rebellion which had broken out in Ireland, and with what difficulty he had procured the money then remitted to him. This money, £250, was never received, and the brothers were obliged to return to Geneva. Here they continued a considerable time, without either advices or supplies, but contrived at last to reach their native country in 1644. On their arrival, Mr. Boyle found his father dead; and though the earl had made ample provision for him in the manor of Stalbridge in England, as well as other considerable estates in Ireland, it was some time before he could receive any money. In March 1646 he retired to Stalbridge, where he resided till May 1650, and applied himself with incredible industry to various studies. He was one of the first members of that small but learned body of men, styled the philosophic college, which, when all academical studies were interrupted by the civil wars, secreted themselves about the year 1645; and held private meetings, first in London, afterwards at Oxford, for the sake of canvassing subjects of natural knowledge, upon the plan of experiment recommended by Lord Bacon. After the Restoration, they were incorporated and distinguished by the name of the Royal Society. In the summer of 1651 he put in execution a design he had formed for some time

of residing at Oxford. It was during his residence here that he made his improvements on that important engine the air-pump. But, philosophy, and enquiries into nature, though they engaged his attention deeply, did not occupy it entirely. He continued to pursue his critical and theological studies. In these he had the assistance of Dr. Edward Pocock, Mr. Thomas Hyde, and Mr. Samuel Clarke. He was also intimate with Barlow, afterwards bishop of Lincoln, a man of various and extensive learning. In 1659 Mr. Boyle being acquainted with the unhappy circumstances of the learned Sanderson, afterwards bishop of Lincoln, who had lost all his preferments on account of his attachment to the royal party, conferred upon him an honorary stipend of £50 a year. Mr. Boyle, upon the Restoration, was treated with great civility and respect by the king, as well as by lord treasurer Southampton and lord Clarendon. By the latter he was solicited to enter into orders, but he considered, that as a layman, whatever he wrote respecting religion would have much greater weight. He continued, therefore, to pursue his philosophical studies, and began to communicate to the world the fruit of them in, 1. *New Experiments, Physicomechanical, touching the Spring of the Air and its Effects*, 8vo. 2. *Seraphic Love; or some Motives and Incentives to the love of God*, pathetically discoursed of in a letter to a friend. 3. *Physiological Essays and other Tracts*, 1661, 4to. 4. *Sceptical Chemist*, 1662, 8vo.; reprinted 1679, 8vo. with the addition of experiments and notes about the producibility of chemical principles. In 1663, the Royal Society being incorporated by king Charles II. Mr. Boyle was appointed one of the council; and as he might be justly reckoned among the founders of that learned body, so he continued one of the most useful and industrious of its members during the whole of his future life. In June, 1663, he published, 5. *Considerations touching the usefulness of Experimental Natural Philosophy*, 4to. 6. *Experiments and Considerations upon Colors*; to which was added a Letter, containing Observations on a Diamond that shines in the dark, 1663, 8vo. 7. *Considerations on the style of the Holy Scriptures*, 1663, 8vo. In 1664, he was elected into the company of the royal marines; and the following year published his, 8. *Occasional Reflections*, upon several subjects, 8vo.; which exposed him to the ridicule of Dean Swift, who wrote *A Pious Meditation upon a Broomstick*, in the style of the honorable Mr. Boyle. The same year he published an important work, entitled, 9. *New Experiments and Observations upon Cold*, 1665, 8vo. In 1666, 10. *Hydrostatical Paradoxes*, made out by new experiments, for the most part physical and easy, in 8vo. 11. *The Origin of Forms and Qualities, according to the corpuscular philosophy*, illustrated by considerations and experiments. At this time he also communicated to his friend Mr. Oldenburgh, secretary to the Royal Society, several excellent short treatises, which are printed and preserved in the *Philosophical Transactions*. In 1668, Mr. Boyle resolved to remove to London, to the house of his sister, lady Ranelagh, in Pall-Mall. He pub-

lished, in 1669, 12. *A Continuation of his Experiments touching the Weight and Spring of the Air*; and, 13. *Tracts about the Cosmical Qualities of Things*. In 1671, 14. *Considerations on the usefulness of Experimental and Natural Philosophy*: part 2d, 4to. 15. *A Collection of Tracts, upon several useful and important points of Practical Philosophy*, 4to. 16. *An Essay about the Origin and Virtues of Gems*, 1672, 8vo. 17. *A Collection of Tracts upon the relation between Flame and Air*; and several other useful and curious subjects: besides furnishing, in this and the former year, a great number of short dissertations, upon a vast variety of topics, addressed to the Royal Society, and inserted in their *Transactions*. 18. *Essays on the Strange Subtlety, Great Efficacy, and Determinate Nature of Effluvia*; to which were added, a variety of experiments on other subjects, 1673, 8vo. 19. *A Collection of Tracts upon the saltiness of the Sea, the moisture of the Air, the natural and preternatural state of Bodies: to which is prefixed, a Dialogue concerning Cold*, 1674, 8vo. 20. *The Excellency of Theology compared with Philosophy*, 1674, 8vo. This was written in 1665, while Mr. Boyle, to avoid the great plague which then raged in London, was forced to go from place to place in the country, and had little or no opportunity of consulting his books. It contains a great number of curious and useful, as well as just and natural, observations. 21. *A Collection of Tracts, containing suspicions about hidden qualities of the Air; with an Appendix touching celestial Magnets; Animadversions upon Mr. Hobbes's Problem about a Vacuum; a Discourse of the cause of Attraction and Suction*, 1674, 8vo. 22. *Some Considerations about the reconcileableness of Reason and Religion*; by T. E. a layman. To which is annexed, a Discourse about the possibility of the Resurrection: by Mr. Boyle, 1675, 8vo. In 1676, he published, 23. *Experiments and notes about the Mechanical Origin or Production of particular Qualities, in several discourses on a great variety of subjects, and among the rest on electricity*. In 1678, he communicated to Mr. Hook a short memorial of some observations upon an artificial substance that shines without any preceding illustration; which that gentleman thought fit to publish in his *Lectiones Cudrianæ*. 24. *Historical Account of a degradation of Gold made by an anti-elixir*. This made a great noise both at home and abroad, and is looked upon as one of the most remarkable pieces that ever fell from his pen; since the facts contained in it would have been esteemed incredible, if they had been related by a man of less integrity and piety than Mr. Boyle. The regard which the great Newton had for Mr. Boyle, appears from a very curious letter, which the former wrote to him at the end of this year, to be found in Dr. Birch's *Life of Mr. Boyle*. In 1680 he published, 25. *The Aerial Noctiluca; or some new Phenomena, and a Process of a Facitious Self-shining Substance*, 8vo. This year the Royal Society, as a proof of the just sense of his great worth, and of the constant and particular services which through a course of many years he had done them, made choice of him for

their president; but he scrupled to take the oaths required, and declined the honor. We need not particularise the other tracts of this great philosopher. In the year 1690 he gave to the world *The Christian Virtuoso*; shewing, that by being addicted to Experimental Philosophy, a man is rather assisted than indisposed to be a good Christian. To which are subjoined, 1. A Discourse about the distinction that represents some things as above reason, but not contrary to reason. 2. The first chapters of a Discourse intitled *Greatness of Mind* promoted by Christianity. The last work which he published himself, was in the spring of 1691, and is intitled, *experimenta et Observationes Physicæ*; wherein are briefly treated several subjects relating to natural philosophy in an experimental way, 8vo. On the 18th of July, 1691, he signed and sealed his last will, and died on the 31st of December, aged sixty-five. He was buried at Westminster on the 7th of January, his funeral sermon being preached by Bishop Burnet, from *Eccles. xi. 26*, 'For God giveth to a man that is good in his sight, wisdom, knowledge, and joy;' in which that prelate mentions his being at the sole charge of a translation and impression of the New Testament into the Malay language, which he sent over all the East Indies; that he nobly rewarded the translator of Grotius's incomparable book *Of the Truth of the Christian Religion*, into Arabic; and was at the expence of an entire impression. He also promoted the translation of the New Testament into the Turkish language; spent £700. on an edition of the Irish Bible, and contributed largely to an impression of the Welsh Bible. During his life, he gave £300. to advance the propagation of the Christian religion in America; and as soon as he heard that the East India Company were entertaining propositions for the same design in the East, he sent them £100. In other respects his charities amounted to upwards of £1000. a-year. The celebrated Boerhaave says of him, 'Mr Boyle, the ornament of his age and country, succeeded to the genius and inquiries of the great chancellor Verulam. Which of all Mr. Boyle's writings shall I recommend? All of them. To him we owe the secrets of fire, air, water, animals, vegetables, fossils: so that from his works may be deduced the whole system of natural knowledge.' Mr. Boyle was never married; but Evelyn was assured, that he courted the beautiful and ingenious daughter of Cary, earl of Monmouth, and that to this passion was owing his Seraphic Love. His posthumous works are, 1. *The general History of the Air* designed and begun. 2. *General Heads for the Natural History of a Country*, great or small; drawn out for the use of Travellers and Navigators. 3. A Paper of the Honorable Robert Boyle's, deposited with the secretaries of the Royal Society, October 14th, 1680, and opened since his death; being an account of his making the phosphorus, September 30th, 1680. Printed in the *Philosophical Transactions*. 4. *An Account of a Way of examining Waters*, as to freshness or saltness. 5. A free Discourse against customary Swearing, and a Dissuasive from Cursing, 1695, 8vo. 6. *Medicinal Experiments; or a Collection of Choicè*

Remedies, chiefly simple and easily prepared, useful in families, and fit for the service of the country people. The third and last volume, published from the author's original MS. whereunto is added several useful notes explicatory of the same, 1698, 12mo. Beautiful editions of all his works have been printed at London in five vols. folio, and six vols. 4to. He bequeathed by will £50. a year, for the endowment of a lecture in defence of Christianity, 'without descending to any controversies among Christians;' an appointment to which we are indebted for many able treatises.

BOYLE (Roger), earl of Orrery, the fifth son of earl Richard, was born in 1621; and by the credit of his father with the lord deputy Falkland, raised to the dignity of baron Broghill, when only seven years old. He was educated at Dublin, where he soon distinguished himself. He afterwards made the tour of France and Italy; and at his return assisted his father in opposing the rebellious Irish; in which he behaved with all the spirit of a young, and the discretion of an old, officer. Upon the death of the king, he retired to Marston, in Somersetshire; but at length resolved to attempt something in favor of Charles II.; and under the pretence of going to Spa for his health, to apply to that prince for a commission to raise what forces he could in Ireland. Having raised a considerable sum of money, he came up to London to prosecute his voyage: but had not been long in town when he received a message from Cromwell, who was then general of the parliamentary forces, that he intended to wait upon him. Lord Broghill was surprised at this message, having never had the least acquaintance with Cromwell; and desired the gentleman to let the general know, that he would wait upon his excellency. But while he was waiting the return of the messenger, Cromwell entered the room; and after mutual civilities, told him, that the committee of the state were apprised of his design of applying to Charles Stuart for a commission to raise forces in Ireland, and had determined to make an example of him. Lord Broghill assured him, that the intelligence which the committee had received was false, and that he neither was in a capacity, nor had any inclination, to raise disturbances in Ireland: but Cromwell, instead of making any reply, drew out of his pocket copies of several letters, which his lordship had sent to those in whom he most confided, and put them into his hands. Broghill, upon the perusal of these papers, finding it to no purpose to dissemble, asked his excellency's pardon for what he had said, returned him thanks for his protection against the committee, and intreated his direction how to behave in such a delicate conjuncture. Cromwell told him, that though till this time he had been a stranger to his person, he was not so to his merit and character; he had heard how gallantly his lordship had behaved in the Irish wars; and therefore, since he was named lord lieutenant of Ireland, and the reducing that kingdom was now become his province, he had obtained leave of the committee to offer his lordship the commission of a general officer, if he would serve in the war; and he should have no oaths or engage-

ments imposed upon him, nor be obliged to draw his sword against any but the Irish rebels. Broghill was infinitely surprised at so generous and unexpected an offer. He saw himself at liberty, by all the rules of honor, to serve against the Irish, whose rebellion and barbarities were equally detested by the royal party and the parliament. He desired, however, some time to consider of what had been proposed to him. But Cromwell briskly told him, that he must come to some resolution that very instant: that he himself was returning to the committee, who were still sitting; and if his lordship rejected their offer, they had determined to send him to the tower. Upon this, lord Broghill, finding that his liberty and life were in the utmost danger, gave his word and honor that he would faithfully serve the parliament against the Irish rebels; on which Cromwell once more assured him, that the conditions which he had made with him would be punctually observed; and then ordered him to repair to Bristol, adding, that he himself would soon follow him into Ireland. Lord Broghill, therefore, went over into that country; where, by his conduct and intrepidity, he performed many important services, and fully justified the opinion Cromwell had conceived of him. By his own interest he now raised a troop of horse, consisting chiefly of gentlemen attached to him by personal friendship; a corps which was soon increased to a complete regiment of 1500 men. These he led into the field against the Irish rebels; and was speedily joined by Cromwell, who placed the highest confidence in his new ally, and found him of the greatest consequence to the interest of the commonwealth. When Cromwell became protector, he sent for lord Broghill, merely to take his advice occasionally. And we are told, that, not long after his coming to England, he formed a project for engaging Cromwell to restore the old constitution. The basis of the scheme was to be a match between the king (Charles II.) and the protector's daughter. As his lordship maintained a secret correspondence with the exiled monarch and his friends, it was imagined that he was beforehand pretty sure that Charles was not averse to the scheme, or he would not have ventured to propose it seriously to Cromwell; who at first seemed to think it not unfeasible. He soon changed his mind, however, and told Broghill that he thought his project was impracticable: 'For,' said he, 'Charles can never forgive me the death of his father.' In fine, the business came to nothing, although his lordship had engaged Cromwell's wife and daughter in the scheme. On the death of the protector, lord Broghill continued attached to his son Richard, until he saw the dark clouds of anarchy hovering over the nation; when he deemed it prudent to retire to his command in Ireland, and became not a little instrumental in the king's restoration. In consideration of his eminent services in this respect, Charles created him earl of Orrery by letters patent bearing date September 5th, 1660. He was soon after made one of the lords justices of Ireland. But his lordship's active life at length induced a fever, which fell into his feet, and joined to the gout, with which he was often afflicted, abated much

of his vigor. Notwithstanding his infirmities, on the king's desiring to see him in England, he went over in 1665, and was the means of reconciling the duke of York and Charles II. On his return, he found himself called to a new scene of action. The duke de Beaufort had formed a scheme for a descent upon Ireland; but this was rendered abortive by the extraordinary diligence, military skill, and prudent measures, of lord Orrery. In the midst of his labors, however, a dispute arose between him and his old friend the duke of Ormond, then lord lieutenant; the bad effects of which were soon felt by both disputants, who resorted to England to defend their respective interests and pretensions, both having been attacked by secret enemies who suggested many things to their prejudice. This quarrel, though private, at last became so public as to produce an attempt to frame an impeachment against the duke of Ormond, and an actual impeachment ultimately against the earl of Orrery. He defended himself, however, so well, that the prosecution came to nothing. He nevertheless lost his public employments; but not the king's favor: he still came frequently to court, and sometimes to council. After this he made several voyages to and from Ireland; was often consulted on affairs of the utmost consequence; and on all occasions gave his opinion and advice with the freedom of an honest plain-dealing man. In 1678, being attacked more cruelly than ever by his old enemy the gout, he gave the strongest proofs of Christian patience and rational fortitude, and breathed his last on the 16th of October, 1679, in the fifty-ninth year of his age. He wrote, 1. *The Art of War*. 2. *Parthenissa*, a romance, in one volume folio. 3. *Several Poems*. 4. *Dramatic Pieces*, in two volumes. 5. *State Tracts*, in one volume folio, &c. Walpole says, he never made a bad figure but as a poet.

BOYLE (Richard) third earl of Burlington and fourth earl of Cork, was born in 1695, and married in 1721 one of the coheirs of Savile, marquis of Halifax. In 1730 he was installed knight of the garter, but though a prosperous courtier, he retired in 1731 to his beautiful seat at Chiswick, the plan of which, borrowed from a well-known villa of Palladio, he now improved, and new fronted Burlington-house. His enthusiasm for architecture was so great, that he even contributed his own money to repair St. Paul's church, Covent-garden, because it was the work of Inigo Jones. His house at Chiswick went to the Devonshire family by the marriage of his only daughter to the then duke. Pope dedicated to Lord Burlington his fourth epistle, and he is said to have been the first patron of bishop Berkeley. He died in 1753, when the Burlington title became extinct.

BOYLE, a market town of Ireland, in the county of Roscommon, situated on a river of the same name, which is crossed by two noble bridges, on one of which is a statue of king William III. Here there are barracks for a troop of horse. The linen manufacture flourishes in the neighbourhood, and the town is now populous. Before the union it sent two members to the Irish parliament. Here are also the remains of a round tower, and of an ancient Cistercian

abbey, the latter of which was plundered when taken by the English in 1225. These stand near Lough Key. Distant eighteen miles south of Sligo, twenty-three N. N. W. of Longford, and eighty-four from Dublin.

BOYNE, a river in Ireland, which rises in Queen's county, near the source of the Barrow, and running, north-east by Trim and Cavan, falls at last into the Irish channel, a little below Drogheda. It will admit vessels of 150 tons burden up to that town, and has excellent internal communications with other parts of Ireland by means of canals. About two miles from Drogheda, was fought, in June 1690, the celebrated battle which bears in history the name of the river, and which, as deciding the final retreat of James II. from the British throne, may claim to be shortly sketched in this place. James II. having received a reinforcement of 6000 infantry from France, had been in no small degree surprised to learn at Dublin on the 20th., that his son-in-law had been in Ireland at the head of 36,000 men for six days. His own army amounted to about this number, exclusive of his troops in garrison. He now therefore left Dublin under escort of Luttrell's militia, and, occupying a very advantageous post on the banks of the Boyne, resolved to hazard a battle with the English army. His ally Louis XIV. had promised to equip a fleet to destroy William's transports, on the return of his convoy, which was now seen sailing along the coasts, and a council of war advised James to wait the issue of the naval operations. But he was determined to have, as he said, 'one good blow' for his crown. The river in front of his position was deep, and skirted by a morass and a rising ground : so that a superior force could here be easily repulsed ; and, with all his own personal bravery, he seems to have taken it for granted that his rival would attack him.

William III. arrived at the opposite bank of the Boyne on the evening preceding the battle, and being observed, as he was reconnoitring the position of the enemy, received a wound from a field-piece. A man and two horses were killed at his side, and a ball rebounding from the earth grazed his right shoulder, and produced some confusion among his attendants. The adherents of James perceiving this, shouted that he was killed ; the rumor spread through the Irish camp, and was conveyed to Dublin, and thence to France ; where bonfires and illuminations were ordered in token of the great monarch's joy. In the meantime William rode through his own line, little affected by the accident, held a council of war at night, and resolved, against the advice of the duke of Schomberg, to pass the river with his army, and advance upon the enemy in three divisions in the morning.

At six o'clock, lieutenant-general Douglas led on the right wing of the English infantry towards Slanebridge, and passed it without much opposition ; but soon perceived the enemy in considerable force on the other side of the morass, where he waited for reinforcements ; and then charged through this disadvantageous ground with his infantry, while the young count Schomberg rode round it with the cavalry, and attacked the Irish in flank. They instantly fled in all direc-

tions. King James however directed a reinforcement to be sent to this quarter from the centre, and was successfully holding the English forces in check, when William's main body passed the river, breast high, under protection of his artillery. James's cannon had been most unthinkingly removed from the opposite side, where only a body of musketeers opposed a feeble fire to the impetuosity of the assailing battalions. Before they could form, however, general Hamilton brought up a considerable body of infantry and cavalry, who for a while produced some confusion among king William's troops. At this moment, the old duke Schomberg passed the Boyne at the head of the French Protestants, and so impetuously mingled himself and his men among the enemy, that he received a fatal shot as it was supposed from his own supporters. The infantry of James now rallied ; but William passing the river in person with his left wing, attacked them so vigorously, that they appeared struck with a sudden panic ; halted, and commenced their retreat to the village of Dunore. Here an intrepid stand was made on behalf of James ; and his valiant rival, at the head of his choicest troops, was compelled for a short time to give way. The whole wing would have been routed, it is said, but for the timely arrival of the dragoon regiments of Cunningham and Levison, who dismounted and raked the enemy with a murderous fire through the hedges. William had thus time to re-form his cavalry, and the Irish abandoned the field. During the whole action, king James had posted himself on the hill of Dunore, surrounded with a small body of horse, and seeing the victory decidedly incline towards his opponent, rode off for Dublin, where he arrived that evening.

In this battle, lords Dongan and Carlingford, the marquis of Hocquincourt, and Sir Neile O'Neile fell in his service. On the other side, the brave and experienced duke Schomberg ; Caillemotte, a French Protestant general of great valor and talent ; and Walker, the clergyman of Londonderry, who had been so conspicuous in the siege of that place. King William displayed the greatest personal courage while he fought upon the worse military theory ; James was evidently careful of his person, until in a fair pitched battle, with considerable advantages on his side, he lost his confidence and his crown.

BOYS, Boyse, or Bois (John), one of the translators of the Bible in the reign of James I. was the son of William Bois, rector of West Stowe, and born at Nettlestead in Suffolk, in 1560. The rudiments of learning were taught him by his father, and his capacity was such, that at five years of age he read the Bible in Hebrew. At fourteen he was admitted of St. John's College Cambridge, where he distinguished himself by his skill in Greek. Happening to have the small-pox when he was elected fellow, he, to preserve his seniority, caused himself to be carried in blankets to be admitted. He for some time studied medicine, and was ten years chief Greek lecturer in his college, and read every day. For some years he voluntarily read a Greek lecture at four in the morning, in his own chamber. On the death of his father, he succeeded him in the rectory. At the age of thirty-six, he married

the daughter of Mr. Holt, rector of Boxworth, whom he succeeded in that living, Oct. 13th 1596. Here his young wife proving a bad economist, and he himself being wholly addicted to his studies, he soon became so much involved in debt, that he was obliged to sell his choice collection of books, consisting of almost every Greek author then extant. When a new translation of the Bible was by king James I. directed to be made, Mr. Boys was elected one of the Cambridge contributors. He performed not only his own, but also the part assigned to another, with great reputation; though with no profit, for he had no allowance but his commons. He was also one of the six who met at Stationers' Hall to revise the whole. He afterwards assisted Sir Henry Saville in publishing the works of St. Chrysostom. In 1615 Dr. Lancelot Andrews, bishop of Ely, bestowed on him, unasked, a prebend in his church. He died 14th Jan. 1643, aged eighty-four. He left many MSS. particularly a commentary on almost all the New Testament.—When a young student at Cambridge, he is said to have received from the learned Dr. Whitaker three rules for avoiding those distempers which usually attend a sedentary life; to which he adhered with equal constancy and success. The first was, to study always standing; the second, never to study in a window; and the third, never to go to bed with his feet cold.

Boyse (Samuel), a poet of the last century, was a man remarkable for the fineness of his genius, the lowness of his manners, and the wretchedness of his life. He was born in 1708, and received the rudiments of his education in Dublin. When he was eighteen years old, his father, a dissenting minister, sent him to the University of Glasgow, to finish his education. He had not been a year there, when he fell in love with a daughter of a tradesman of that city, and terminated his education by marrying her before he had entered his twentieth year. His extravagance soon exposing him to want, and obliged him to go over with his wife and sister to Dublin. The whole three it is said were notorious libertines. An estate his father possessed in Yorkshire was sold to discharge his debts. Soon after his father's death, we find Mr. Boyse at Edinburgh, where his poetical genius raised him many friends, and some patrons of eminence. He published a volume of poems in 1731, to which he subjoined *The Tablature of Cebes*, and a *Letter on Liberty*, inserted in the *Dublin Journal*, 1726; addressed to the countess of Eglington. On the death of viscountess Stormont, Boyse wrote an elegy, entitled *The Tears of the Muses*, which was much applauded by her ladyship's relations. Lord Stormont on this occasion ordered a handsome present to be given to Boyse by his attorney. The duchess of Gordon now employed her interest in procuring a place for him, and gave him a letter which he was to deliver to one of the commissioners of the customs at Edinburgh, but it happened that the morning on which he was to have rode to town with her grace's letter proved to be rainy, he delayed going to town with it, and, while he let slip the opportunity, the place was bestowed upon another. He now quitted the Scottish for the English metropolis,

and the duchess having still a high opinion of his abilities, gave him a letter of recommendation to Mr. Pope, and obtained another for him to Sir Peter King, the lord chancellor of England. These, however, on his arrival he was wholly careless in delivering, and entered only into acquaintance of the lowest cast. He had no taste for any thing elegant, and yet was to the last degree expensive. Often when he had received a guinea in consequence of a supplicating letter, he would go into a tavern, order a supper to be prepared, drink of the richest wines, and spend all the money that had just been given him in charity, while his wife and child were starving at home! About 1740 Boyse was reduced to the last extremity of human wretchedness; he had not a shirt, a coat, or any kind of apparel to put on; the sheets on which he lay were carried to the pawn-brokers, and he was obliged to be confined to his bed with no other covering than a blanket. He sat up in bed, we are told, with the blanket wrapt round him, through which he cut a hole large enough to admit his arm, and placing the paper on his knee, scribbled in the best manner he could the verses he was obliged to make: and whatever he got by these or his begging letters, was but just sufficient for the preservation of life. About the year 1745 his wife died, and he pretended much concern at the event. He was then at Reading, compiling a review of the most material transactions at home and abroad during the war; in which he included a short account of the rebellion. On his return to town, his behaviour was more decent than it had ever been. He was employed by a bookseller to translate Fenelon on the Existence of God; during which time he married a second wife, a woman in low circumstances, but well enough adapted to his taste. He now began to live with more regard to his character, and supported a better appearance than usual; but while his circumstances were mending, and his irregular appetites losing ground, his health declined. At this time he had the satisfaction to observe a poem of his, entitled *The Deity*, recommended by two eminent writers, the ingenious Fielding, and Hervey, author of the *Meditations*. A beautiful poem called *The Recantation*, was the last of his productions. He died in May 1747, in obscure lodgings in Shoe-lane, and was buried by the parish. Never were distinguished abilities given to less purpose. His genius was not confined to poetry only. He had a taste for painting, music, and heraldry. His poetical pieces, if collected, would, it is said, make six moderate volumes. Many of them are scattered in *The Gentleman's Magazine* marked with the letter Y, and *Alceus*. Two volumes were published in London. An ode in the manner of Spenser, entitled *The Olive*, was addressed to Sir Robert Walpole, which procured him a present of ten guineas.

BOZRAH, BEZER, or BOSTRA, a city of Judea, seated on a plain, about the south-east border of the land of Reuben, near the source of the Arnon. It was a city of refuge (Josh. xx. 8.), and was taken by the Moabites during the declension of the kingdom of Israel. It was afterwards ravaged by the Chaldeans. It was rebuilt

however, and a Christian church early planted in it, which continued till the Arabians took it under Mahomet's successors. The emperor Trajan favored it, and called it Philippopolis.

BOZRAH, the capital of Edom, situated about 150 miles from the above. It was very ancient, and was the birth place of Jobab, king of Edom. It was ravaged by the Assyrians; afterwards by the Chaldeans, and at last by Judas Maccabeus. It is mentioned in that remarkable prophecy, in Isa. lxiii. 1. Not a vestige of it now remains.

BOZRAH, a town of America, in New-London county, and state of Connecticut; thirty-six miles east from Norwich.

B QUADRO, QUADRATO, or Durale, in music, called by the French, *b* quarre from its square figure. This is what we call *B* natural or sharp, in distinction to *B* mol or flat. See FLAT and SHARP. If the flat be placed before a note in the thorough bass, it intimates, that its third is to be minor; and if placed with any cypher over a note in the bass, it denotes, that the fifth or sixth thereof are to be flat. But if the quadro be placed over any note, or with a cypher, in the thorough bass, it has the contrary effect: for thereby the note or interval thereto is raised to its natural order.

BRABANT, duchy of, an important central province of the kingdom of the Netherlands. It is bounded on the west by Flanders and Zealand; on the north by Holland and Guelderland; on the east by Liege and Limburg, and on the south by Hainault and Namur. It is divided into North and South Brabant, which are separated by the province of Antwerp, once a part of the duchy.

The soil of these provinces is for the most part fertile, yielding excellent pasturage, and large quantities of wheat, hops, and flax. In the north division, however, there are large tracts of heath, moss, and wood. In both, manufactures of linen cloth and lace are carried on to a considerable extent. Its chief rivers are the Dommel, Demer, Dyle, and Nethe, assisted by several canals. In North Brabant the inhabitants are chiefly Protestants; in the south, before the French revolution, the majority were Roman Catholics of the lowest grade, ignorant, superstitious, and wretched. By Philip and Alva, these provinces were deluged with blood; the horrors of war brought them first into notice, and they have generally sunk into insignificance, except when they have been made the theatre of conflict, or when, like absolute property, they have been transferred from one princely family to another. As early as the ninth century, we find Brabant, north and south, erected into a duchy, belonging to the monarchy of the Franks. It afterwards became an important fief of the German empire, under the successors of Charlemagne. Otto, the last duke of Brabant, of this line, died in 1005, when the duchy devolved upon Lambert I., count of Louvain, who had married his sister. Thence it descended to Philip II., duke of Burgundy, and from him, by regular succession, to the emperor Charles V. In the seventeenth century, these provinces were held by the Republic of Holland and the house Austria. The northern division appertained to

the former under the name of Dutch Brabant; the southern part was obtained by the latter, a small district of which was called Walloon Brabant.

This duchy is sometimes described as divided into the quarters of Louvain, Brussels, Antwerp, and Bois-le-duc, comprising about twenty-eight fortified towns, and nearly 700 villages. The Austrian division was seized by the French in 1746, but was restored by the peace of Aix-la-Chapelle; it was, however, taken possession of in 1734 by the French Republic, and confined to them by the treaties of Campo Formio and Luneville. By subsequent arrangements, the northern province formed the department of the Deux Nethes, and the southern that of the Dyle. In 1810 Dutch Brabant was, with part of Guelderland, united to the Empire, and formed into the department of the mouths of the Rhine. Austrian Brabant was once highly privileged—it had its own states, consisting of two bishops and eleven abbots, with the barons and seven deputies chosen by the magistrates of Brussels, Louvain, and Antwerp;—these distinctions no longer exist. North Brabant contains a population of about 250,000 persons, and sends seven members to the Representative Assembly of the kingdom; Antwerp likewise sends five; South Brabant sends eight, which together make twenty for the whole of the former duchy, containing about 366,000 souls. In the south a corrupted French is the language of the common people; in the north the Flemish is spoken, but the higher classes of both parts speak good French. The principal places, exclusive of the four chief towns of the quarters, are Tirlemont, Arschoot, Diest, Gemblours, Juvigne, Nivelles, Breda, Bergen-op-Zoom, and Eyndhoven.

BRAB'BLE, <i>v. & n.</i>	} Goth. <i>ropa</i> ; to call out; produced Belgic, <i>beroeop</i> , alteration, and its frequentative <i>brabbel</i> . To clamor; to brawl; to squabble; to confound; to trouble; to rail; to broil; to contest noisily.
BRAB'BLER,	
BRAB'BLING,	
BRAB'BLINGLY,	
BRAB'BLEMENT.	

Away I say.

Now by the gods that warlike Goths adore,
This pretty *brabble* will undo us all. *Shakspeare.*

Here in the streets, desperate in shame and state,
In private *brabble* did we apprehend him. *Id.*

BRABEJUM, the African almond, in botany, a genus of the monœcia order, and polygamia class of plants. Male: cor. four-parted: STAM. four, inverted in the throat: STYLE, bifid and abortive. Female: cor. four-parted, revolved upwards: STAM. four: PIST. one: STIG. two; the fruit is a roundish drupa, with a globular seed. Of this genus there is but one species, viz.: *B. stellulifolium*, the star-leaved African almond, a native of the Cape of Good Hope. It rises with an upright stem, covered with brown bark: the leaves are indented at their edges, standing on very short foot-stalks. The flowers are produced towards the end of their shoots, which are of a pale color, inclining to white.

BRABEUTÆ, or **BRABEUTES**; from *βραβεύων*, a prize; in antiquity, officers among the Greeks, who presided at the public games, and decided controversies that happened among the antagonists in the gymnastical exercises. The number of brabeutæ was not fixed; sometimes there was only one, but more commonly they amounted to nine or ten. Some authors confound them with the Agonothetæ, but they were different. See *AGONOTHETÆ*.

BRACCATA, in entomology, a species of vespa, color black; base of the antennæ and the fore legs yellow; thighs black above. Inhabiting Europe.

BRACCATA, a species of tenthredo, color black; thighs rufous; base of the four posterior shanks and part of the antennæ white. Inhabiting Europe.

BRACCATUS, a species of ichneumon, color black; mouth and antennæ yellow; abdomen ferruginous; four anterior legs yellow. Inhabiting Europe.

BRACCIOLINI (Francis), an Italian poet, a native of Pistoia, and the friend of pope Urban VIII. He wrote: 1. An epic poem, entitled, *The Cross Reconquered*, under the emperor Heraclius. 2. *The Mockery of the Pagan Gods*: a heroic poem. 3. *The Election of Pope Urban VIII.* in twenty-three books. He died about 1644, aged eighty.

BRACE', *v. & n.* } Armoric, *breech*; Welch, *braich*; Ital. *braccio*; Fr. *bras*; from Lat. *brachium*; **BRACE'LET**, } the arm; strength; a support; stay; energy; a cincture; a bandage. To hold, bind, or tie together; to tighten; to strengthen; to fasten; to confine; to restrain. A brace of dogs is a couple of dogs, braced or tied together, and from usage restricted in number to two, hence the general application in this sense. The substantive brace and bracelet are applied particularly to armour, or ornaments, bracing or binding the arm; brace, to a certain part of the rigging of a ship; to certain timbers which are to brace or hold together; to whatever is constringent.—*Encyclo. Met. Johnson. Thomson's Etymons.*

Upon his arme he bore a gaie *bracer*,
And by his side a swerde and a bokeler.

Chaucer's Canterbury Tales.

As it more concerns the Turk than Rhodes,
So may he with more facile question bear it;
For that it stands not in such warlike *brace*,
But altogether lacks the abilities
That Rhodes is dressed in. *Shakespeare.*

But you, my *brace* of lords, were I so minded,
I here could pluck his highness's frown upon you.
Id.

Why do they crown themselves with gold and silver, use coronets, and tires of several fashions; deck themselves with pendants, *bracelets*, ear-rings, chains, girdles, rings, pins, spangles, embroideries, shadows, rebatoes, versicolor ribbands. *Burton's Anat. Mel.*

Tie about our tawny wrists,

Bracelets of the fairy twists. *Ben Jonson.*

Down from a hill the beasts that reign in woods,
First hunter then, pursued a gentle *brace*,
Goodliest of all the forest, hart and hind. *Par. Lost.*

Ten *brace* and more of greyhounds, snowy fair,
And tall as stags, ran loose, and coursed around his chair. *Dryden's Fables.*

The tympanum is not capable of tension that way, in such a manner as a drum is *braced*. *Holder.*

The diminution of the force of the pressure of the external air, in *bracing* the fibres, must create a debility in muscular motion. *Arbuthnot on Air.*

The women of China, by *bracing* and binding them from their infancy, have very little feet. *Locke.*

Frank, with his cargo in his hand,

Leaped joyful on the golden strand,

Opened his toyshop in the port,

Trinkets of various size and sort,

Bracelets and combs, bodkins and tweezers,

Bath-metal rings, and knives and scissors.

Somerville.

The fore-sail *braced* obliquely to the wind,
They near the prow, the' extended tack confined.

Falconer's Shipwreck.

That task performed, they first the *braces* slack,
Then to its station drag the' unwilling tack. *Id.*

BRACE, in architecture. When the brace is framed into the kingingles or principal rafters, it is by some called a strut.

BRACE, in sea language, to brace the yard, is to bring it to either side. All braces come afterward on; as, the main brace comes to the poop, the main-top-sail brace comes to the mizen top, and thence to the main shrouds, the fore and fore-top-sail braces come down by the main and main-top-sail stay, and so of the rest. But the mizen bowline serves to brace to the yard, and the cross-jack braces are brought forwards to the main shrouds, when the ship sails close by a wind.

BRACE, or **BRASSE**, a foreign measure, answering to our fathom. See *FATHOM*.

BRACELET, an ornament for the arms. The bracelets of the ancients were often ornamented with the richest gems, sculptured in the finest manner. Those of the Grecian females were mostly representations of serpents, such as are on the wrists of a pretended statue of Cleopatra, in the Vatican; but which is now more properly called Ariadne asleep. The Roman generals distributed bracelets called *armillæ*, as marks of valor to the bravest of their soldiers.

BRACER, a smooth piece of leather fastened on the outside of the archer's left arm, which serves to defend his arm from the stripe of the string.

BRACIL. Goth. *brakk*; Teut. *brak*; Fr. *braque*; Ital. *bracco*; apparently the same with *rack*, but supposed to be from *rauck*, smell. Specifically a kind of short-tailed setting-dog; generally a dog that scents out, or traces out by the scent; from Anglo-Sax. *raecc*; from *reacan*, to reek, to send forth a fume or scent; to trace by the scent or odor; a bitch hound, says Johnson.

Truth is a dog must to kennel; he must be whipped out, when the lady *brach* may stand by the fire, and stink. *Shakespeare.*

Lye still ye thief, and hear the lady sing in Welsh.

HOTS. I had rather hear (lady) my *brach* howl in Irish. *Id.*

BRACHIAL ARTERY, *arteria brachialis*, the axillary artery, as it passes behind the tendon of the pectoralis major, receives the name of brachial. It runs down on the inside of the arm, over the musculus coracobrachialis, and anconæus internus, and along the inner edge of the

biceps, behind the vena basilica. Below the bend of the arm it divides into the cubitalis and radialis.

BRACHIAL NERVES, the nerves of the arm. See **ANATOMY**.

BRACHIO CUBITAL LIGAMENT; ligamentum brachio-cubitale. The expansion of the lateral ligament, which is fixed in the inner condyle of the os humeri, runs over the capsular, to which it closely adheres, and is inserted like radii on the side of the great sigmoid cavity of the ulna.

BRACHIO RADIAL LIGAMENT; ligamentum brachio radiale. The expansion of the lateral ligament, which runs over the external condyle of the os humeri, is inserted round the coronary ligament.

BRACHIALIS MUSCULUS. See **ANATOMY**.

BRACHINUS, in entomology, a genus of insects of the order coleoptera, family carabici. Its generic character is: external maxillary and labial palpi filiform; the last joint attenuated at the base; antennæ filiform, longer than the thorax; lower lip entire, produced, subquadrate; the angles of its apex acute; body oblong, obovate; glands at the anus emitting a caustic vapor. The species are: 1. *B. crepitans*, a common insect in this country: when pursued by the calosoma inquisitor, its enemy, it emits with a considerable explosion a quantity of blue vapor from the anus, accompanied with a most nauseous smell, and this immediately stops its assailant. 2. *B. displosor*, with a similar mode of defence: so many of the family of carabici possess it, that one division has acquired the name of bombardiers. *Latr. Hist. Nat. tom. viii. p. 243. Kirby and Spence, vol. ii.*

BRACHIONUS, in entomology, a genus of animalcules of the class of arthrodia, comprehending all the vorticellæ, or wheel species. See **ANIMALCULE**.

BRACHMANS, or **BRACHMINS**. See **BRAHMINS**.

BRACHURUS, in zoology, a name given by Dr. Hill to a genus of animalcules of a roundish figure, with tails shorter than their bodies; their skin is perfectly smooth, thin, and colorless. They are frequent in water-ponds, in pepper-water, and other infusions of vegetable substances. See **ANIMALCULES**.

BRACHYACANTHUS, in entomology, a species of ichneumon; color black, with spotted head and thorax; a small line on the scutellum, and tip of the abdomen white; sting very short. A native of Europe. Also another species of ichneumon; color black; antennæ fuscous; abdomen and legs yellow; sting very short. Inhabiting Europe.

BRACHYCATALECTION, in poetry; from *βραχυς*, short, and *καταληγω*, to end; a verse wanting a syllable at the end.

BRACHYCERUS, in entomology, a genus of insects, of the order coleoptera, family curculionites, *Latr.* Its generic character is antennæ short, straight, with nine articulations; the last forming a truncated club; rostrum rather short, thick, broad, bent downwards; body ovate, turgid, rough; elytra connate; no scutellum; all the joints of the tarsi undivided. It is the cur-

culio apterus of Linnæus. The species are inhabitants of hot climates.

BRACHYCOLON; from *βραχυς*, and *κολον*, a member; a period wherein one member is shorter than another.

BRACHYLOTTIS, in botany, a genus of plants; class syngenesia, order polygamia superflua. *Ess. Char.* flowers radiate: cor. of the ray few, recurved, and three-toothed: cal. polyphyllous, connivent, cylindric, equal. Down plumose. Species, two, *B. repanda*. Leaves ovate, repando-sinuate. *B. rotundifolio*. Leaves nearly round.

BRACHYGRAPHY, *n. & s.* *βραχυς*, short, and *γραφω*, to write. The art or practice of writing in a short compass, now called shorthand.

All the certainty of those high pretenders, bating what they have of the first principles, and the word of God, may be circumscribed by as small a circle as the creed, when *brachygraphy* has confined it within the compass of a penny. *Glanville.*

BRACHYGRAPHY. See **SHORT HAND**.

BRACHYLOGY; from *βραχυς*, and *λογος*, expression; in rhetoric, the expressing any thing in the most concise manner. This, so far as is consistent with perspicuity, is a beauty; but if obscurity be the consequence, which is often the case, it becomes an inexcusable defect. Quintilian gives an instance of brachylogy from Sallust: *Mithridates corpore ingenti perinde armatus*; *Mithridates*, as it were, armed with the hugeness of his stature.

BRACHYOTOS, in ornithology, a horned species of strix, having the tuft very short; the body fuscous above; pale yellow, longitudinally streaked beneath. This is the short-eared owl of Latham, and the grande chevéche of Buffon. It is found both in America and Europe.

BRACHYPNŒA, in medicine; from *βραχυς*, short, and *πνεω*, to breathe; shortness and difficulty of breathing.

BRACHYPTERA, a term used by Willoughby to denote those hawks which have their wings so short as not to reach to the end of the tail. Of this kind are the goss-hawk, sparrow-hawk, &c.

BRACHYPTERA, in entomology, a species of mantis. Color cinereous; thorax dentated; wings half the length of the abdomen. Found in the sandy deserts of the south of Russia.

BRACHYPTERUS, a species of cimex; color pale; body linear; wing-cases a third part the length of the abdomen. Inhabiting Europe. Also a species of gryllus.

BRACHYPYRENIA; from *βραχυς*, and *πυρην*, a nucleus; in the natural history of fossils, a genus of septariæ, with a roundish nucleus. See **SEPTARIE**.

BRACHYTELOSTYLA, in natural history; from *βραχυς*, short, *τελειος*, perfect; and *στυλος*, a column; the name by which Dr. Hill calls those crystals which are composed of a short hexangular column, terminated at each end by an hexangular pyramid. See **CRYSTAL**.

BRACHYURA, in ornithology, an Italian species of fringilla, entirely yellow: the short-tailed Italian sparrow of English writers, and *passerculus bononiensis* of Brisson.

BRACHYURUS, in entomology, a species of ichneumon, inhabiting Germany. Color fulvous; thorax, eyes, and abdomen black; legs yellow.

BRACHYURUS, in ornithology, a species of lanius, the short-tailed shrike of Latham; color, the head ferruginous gray above; eye-brows whitish; body grayish above; yellowish white beneath; tail rounded. Found only in Hungary. Also a species of corvus, of a green color; tawny beneath, and on the head, with a white spot on the wings. This bird inhabits the islands of the Indian ocean.

BRACK'. Ang-Sax. bræccan. To break, see break. A breach; a broken part.

The place was but weak, and the *bracks* fair; but the defendants, by resolution, supplied all the defects.

Hayward.

Let them compare my work with what is taught in the schools, and if they find in theirs many *bracks* and short ends, which cannot be spun into an even piece; and, in mine, a fair coherence throughout; I shall promise myself an acquiescence.

Digby.

BRACK', Goth. *bar*, a tide; Arab.
BRACK'ISH, } *bara*, the sea; Dutch, *brack*,
BRACK'ISHNESS, } salt. Brackish is saltish;
BRACK'Y, } expressing the disagreeable
taste of sea water, or of waters approximating to the sea, not perfectly saline nor entirely fresh; the intermediate state of water that belongs not strictly either to oceans or rivers.

Pits upon the sea shore turn into fresh water, by percolation of the salt through the sand: but it is farther noted, after a time, the water in such pits will become *brackish* again.

Bacon.

When I had gained the brow and top,

A lake of *brackish* waters on the ground

Was all I found.

Herbert.

All the artificial strainings hitherto leave a *brackishness* in salt water, that makes it unfit for animal uses.

Cheyne.

The wise contriver, on his end intent,

Mixed them with salt, and seasoned all the sea,

What other cause could this effect produce?

The *brackish* tincture through the main diffuse.

Blackmore.

BRACK'ET. Ital. *bracietto*. See brace, a cramp or stay; a piece of wood fixed for the support of something.

Let your shelves be laid upon *brackets*, being about two feet wide, and edged with a small lath. *Mortimer.*

In printing, a bracket or brace is a certain mark, bracing or confining words or lines together, as in a triplet thus:—

Charge Venus to command her son,

Wherever else she lets him rove,

To shun my house, and field, and grove;

Peace cannot dwell with hate or love. } *Prior.*

Or thus [].

At the head of each article I have referred, by figures included in *brackets*, to the page of Dr. Lardner's volume, where the section, from which the abridgement is made begins.

Paley's Evidences, part ii. chap. 6.

BRACKET, in architecture, a small support against a wall for a figure, lamp, clock, &c. which are susceptible of considerable elegance of design and decoration.

BRACKETS, in gunnery, the cheeks of the carriage of a mortar. They are made of strong planks of wood, of almost a semicircular figure, and bound round with thin iron plates; they are

fixed to the beds by four bolts, which are called bed bolts; they rise up on each side of the mortar, and serve to keep it at any elevation, by means of some strong iron bolts, called bracket bolts, which go through these cheeks or brackets.

BRACKETS, in ships, the small knees, serving to support the galleries, and commonly carved. Also the timbers that support the gratings in the head.

BRACKLAU, or **BRACKLAW**, a palatinate in the eastern part of Podolia; it is also called Lower Podolia, and is of greater extent than Upper Podolia, but is more desolate, on account of the neighbourhood of the Tartars.

BRACKLAW, a strong town in Poland, capital of the palatinate. The houses are built of wood. It was taken by the Turks in 1673, but retaken three years afterwards. It is seated on the river Bog.

BRACKLEY, an ancient borough town of Northamptonshire, seated near Buckinghamshire, on a branch of the river Ouse. It contains two parish churches; is governed by a mayor and aldermen, and sends two members to parliament. It had formerly a college, which is turned into a free school; and contains many vestiges of former greatness. In the neighbourhood is Bayard's Green, formerly celebrated for its tilts and tournaments. The town had once a great trade in wool. It is thirteen miles south-west of Northampton, and sixty-four north-west of London, and seven miles distant from Buckingham.

BRACTEA, in natural history, a plate, spangle, or thin flake of any substance.

BRACTEA, in botany, a thin leaf of any folium florale. See **BOTANY**.

BRACTEARIA, in natural history, a genus of tales, composed of small plates in form of spangles, each plate either being very thin or fissile into very thin ones. Of this genus there are a great many species, called, from their different colors, mica aurea, or gold-glimmer; and mica argentea, silver-glimmer, or cat's-silver, &c.

BRACTEATA, in entomology, a small species of cicada, inhabiting Cayenne, with a green thorax, without spots.

BRACTEATED COINS, or **BRACTEATI NUMMI**, among antiquaries, coins or medals covered over with a thin plate, or leaf, of some richer metal. They are usually made of iron, copper, or brass, plated over, and edged with gold or silver leaf. Medalists find some bracteated pieces even among the truly ancient coins. The French call them *fourrées*.

BRACTON (Henry), lord chief justice of England in the reign of Henry III. was educated at Oxford, where he took the degree of LL.D. and was made one of the itinerant judges about 1244. Ten years after, he became chief justice, and had the earl of Derby's house in London assigned him for his town residence, during the minority of that nobleman. He filled this important office with singular reputation for twenty years. He wrote *De Legibus et Consuetudinibus Angliæ*, which is one of the most ancient and most methodical books on our laws. His method is copied from Justinian. It was printed at London in 1569, folio, and in 1640, 4to. The first is very incorrect.

BRAD', being an initial, signifies broad,

spacious, from the Saxon *brad*, and the Gothic, *braid*.

BRAD'. Goth. *brodde*; Swed. and Dan. *brad*; Welsh, *brwyd*. A point; a nail without a head. A sort of nail to floor rooms with. They are about the size of a tenpenny nail, but have not their heads made with a shoulder over their shank, as other nails, but are made pretty thick towards the upper end, that the very top may be driven into, and buried in, the board they nail down; so that the tops of these *brads* will not catch the thrums of the mops, when the floor is washing.

BRADS are distinguished by iron-mongers by different names; as joiners' brads, flooring brads, batten brads, bill brads, or quarter heads, &c. Joiners' brads are for hard wainscot; batten brads are for soft wainscot; bill brads are used when a floor is laid in haste, or for shallow joists subject to warp. See **NAIL**.

BRADBURY (Thomas), a dissenting minister, was a native of Wakefield in Yorkshire, and educated at Mr. Jollie's academy at Attercliffe, where he distinguished himself by a species of low wit and eccentricity. He left that seminary at the age of eighteen, and became a preacher in London, and the successor of the celebrated Daniel Burgess. He engaged in a controversy with Dr. Watts on the subject of the Trinity, and was a warm, but not very liberal advocate of the orthodox opinions. He published also two volumes of sermons, which are esteemed. In private life he is said to have been of a very cheerful disposition, and would occasionally carry his hilarity so far as to sing 'O the roast beef of Old England!' at a public dinner. It is but fair, however, to add that his general conduct was irreproachable, and that he was much respected by bishop Burnet, and many of the episcopal clergy. He died in 1759.

BRADFORD (John), an eminent divine, and martyr of the Reformation, was born in the beginning of the reign of Henry VIII. at Manchester. He was at first secretary to Sir John Harrington, who was several times employed by king Henry, and his successor Edward VI. as paymaster to the troops abroad. Bradford at this time was a gay man, and to support his extravagance made free with the king's money; but conscience checking him, he determined to make restitution, and actually repaid the money. Quitting his employment of secretary about A. D. 1547, he took chambers in the inner temple, and for some time studied the law; but, finding an inclination to preach the gospel, he removed, in 1547, to Catharine Hall, Cambridge, and there applied with such uncommon assiduity to the study of divinity, that in a much shorter time than usual he was admitted to the degree of M. A. Bishop Ridley, who, in 1550, was translated to the see of London, charmed with Bradford's application and zeal, now sent for him to the metropolis, ordained and appointed him his chaplain. In 1553 he was also made chaplain to Edward VI. during which time he became one of the most popular preachers in the kingdom. Mary was hardly in possession of the crown, before Bradford's persecutions began. He was first confined in the tower for sedition,

where he continued a year and a half; during which time he wrote several epistles that were dispersed in various parts of the kingdom. He was afterwards removed to other prisons, and at last brought to his trial before bishop Gardiner, where he defended his principles to the last, and was condemned to the flames. He was accordingly burnt alive in Smithfield, where he behaved with uncommon heroism, on July 1st, 1555. His works are, 1. Seventy-two Letters, written to Various People, whilst the Author was in Prison; printed in Coverdale's Collection. 2. Ten Letters, printed in Fox's Acts and Monuments. 3. Complaint of Verity, 1559, 8vo. 4. Three Examinations before the Commissioners, and his Private Talk with the Priests, with the Original of his Life; 1561, 8vo. 5. Two Notable Sermons; 1574, 8vo, 1631. 6. Godly Meditation and Prayers; 1614, 24mo. 7. Treatise of Repentance, 1622. With several translations and other pieces.

BRADFORD (William, Esq.), an American author, printer, and soldier. During the American war he wrote, printed, and fought for his country. Both his father and grandfather had been printers. In the army he had the rank of colonel. Dr. Franklin said of him that his writings were spirited, his press correct, and his sword active. He died at Philadelphia, in 1791.

BRADFORD, a market town of Wiltshire, the centre of the great fabric of superfine cloths, for which it is famous: 10,000 or 12,000 pieces of twenty yards are made here annually; but the water, while excellent for dyeing, has been said to subject the manufacturers in a remarkable degree to scrofula. The Kennet and Avon canal has much increased the trade. Distant seven miles south-east from Bath, and 100 west from London. Market on Monday.

BRADFORD, or **BRADFORTH**, a market town of Yorkshire, in the West Riding, standing on one of the tributary streams of the Aire. It is noted for its manufactures of worsted stuffs, which are exposed for sale on the market day, in a large hall, built for the purpose. The parish is large, and has an endowed free grammar school, founded in the reign of Edward VI. and incorporated by Charles II. in the fourteenth year of his reign. Besides the parish church, a large and noble edifice, there is a new church, lately built by subscription here, and five meeting-houses for dissenters. Near the town are large iron works, where malleable iron is made, celebrated for its great strength. Coal is here very plentiful and cheap, and great quantities are sent off by the canals. In the vicinity, also, are flags and slate, of excellent quality. The rise of the canal, from the Leeds and Liverpool canal, which it joins near Windhill, is eighty-one feet, by eight locks. By means of this canal Bradford has most extensive navigable communications. The market is on Thursday, but the increase of the population has made a second market on Saturday to be much frequented. According to the two last parliamentary returns, it has very nearly doubled its population. It is ten miles from Leeds, and 196 N. N. W. of London.

BRADLEIA, in botany, a genus of class monœcia, order monadelphica. Male; cor. petals

six, filaments three, anthers three. Female; cor. six-parted; three parts interior: STIG. six to eight: CAP. six-valved, six-celled: SEEDS solitary. Species one, *B. sini*, a shrub, native of China.

BRADLEY (Dr. James), a celebrated English astronomer, was born at Sherborne, in Gloucestershire, in 1692. He was fitted for the university at North Leach, and was sent thence to Oxford, and admitted a commoner of Baliol College, March 15th, 1710; where he took the degree of B. A. in 1714, and of M. A. in 1716. His friends intending him for the church, his studies were regulated with that view, and the bishop of Hereford, who had conceived a great esteem for him, gave him the living of Bridstow, and soon after that of Landewy Welfry in Pembrokeshire. All the time that he could spare from the duties of his function he passed with his uncle, Mr. Pound of Wanstead, a gentleman of considerable mathematical acquirements. At this period he made such observations, as laid the foundation of those discoveries which afterwards distinguished him as one of the greatest astronomers of his age. These observations gained him the notice and friendship of the lord chancellor Macclesfield, Mr. afterwards Sir Isaac Newton, Mr. Halley, and many other members of the Royal Society, of which he was elected a member. Not long after, the chair of Savilian professor of astronomy at Oxford becoming vacant, by the death of the celebrated Dr. Keil, Mr. Bradley was elected to succeed him, October 31st, 1721, at twenty-nine years of age; his colleague being Mr. Halley, was professor of geometry on the same foundation. Upon this appointment Mr. Bradley resigned his church livings, and applied himself wholly to the study of his favorite science. In the course of his observations, which were innumerable, he discovered and settled the laws of the alterations, or aberration, of the fixed stars, from the progressive motion of light, combined with the earth's annual motion about the sun, and the nutation of the earth's axis arising from the unequal attraction of the sun and moon on the different parts of the earth. The theory of the former he published in 1727; and that of the latter in 1737: so that in the space of about ten years, he communicated to the world two of the finest discoveries in modern astronomy. See ABERRATION, NUTATION, and ASTRONOMY. In 1730 Mr. Bradley succeeded Mr. Whiteside, as lecturer in astronomy and experimental philosophy in the Museum at Oxford, which was a considerable emolument to him, and which he held till within a year or two of his death; when the ill state of his health induced him to resign it. He always preserved the esteem and friendship of Dr. Halley; who, being worn out by age and infirmities, thought he could not do better for the service of astronomy, than procure for Mr. Bradley the place of regius professor at Greenwich, which he himself had many years possessed with the greatest reputation. He even offered to resign it in his favor, but died before he could accomplish this kind object. Mr. Bradley, however, obtained the place, by the interest of Lord Macclesfield, who was afterwards president of the Royal Society; and upon this appointment the University of Oxford sent him a

diploma creating him D. D. The appointment of astronomer royal at Greenwich, which was dated February 3rd, 1741-2, placed Dr. Bradley in his proper element; and he pursued his observations with unwearied diligence. Numerous as the collection of astronomical instruments at that observatory was, he endeavoured to increase them; and, in 1748, induced the Royal Society to make application to the king on the subject, who ordered £1000 to be expended on this object. Dr. Bradley thus furnished, pursued his observations with great assiduity during the rest of his life; an immense number of which were found after his death, in thirteen folio volumes, and were presented to the university of Oxford in 1779, on condition of their printing and publishing them; which, however, has never yet been done. During Dr. Bradley's residence at the Royal Observatory, he was offered the living of the church at Greenwich; but he refused to accept it, from a conscientious scruple, 'that the duty of a pastor was incompatible with his other studies and necessary engagements.' King George II. hearing of this, granted him a pension of £250 over and above the astronomer's original salary from the Board of Ordnance; a pension which has been regularly continued to the astronomers royal ever since. Dr. Bradley was elected a member of the Academy of Sciences at Berlin, in 1747; of that of Paris, in 1748; of that of Petersburg, in 1754; and of that of Bologna, in 1757. He married Miss Susanna Peach, in 1744, but never had more than one child, a daughter. He died the 13th July, 1763, at Chalfont; and was interred at Minchinhampton, in Gloucestershire. His papers, which have been inserted in the Philosophical Transactions, are, 1. Observations on the Comet of 1703: 2. The Longitude of Lisbon and of the fort of New York from Wanstead and London, determined by the Eclipse of the first satellite of Jupiter: 3. An Account of a New Discovered Motion of the Fixed Stars: 4. On the Going of Clocks, with Isochronal Pendulums: 5. Observations on the Comet of 1736-7: 6. On the Apparent Motion of the Fixed Stars: 7. On the Occultation of Venus by the Moon; April 15th, 1751: 8. On the Comet of 1757: and 9. Directions for Using the Common Micrometer.

BRADLEY (Richard), F. R. S., a writer on gardening and agriculture, was also chosen professor of botany at Cambridge, but led a dissipated life, and measures were taken to deprive him of the situation, when he died in 1732. His works are, 1. A New Improvement of Planting and Gardening, 8vo. 1717. 2. Philosophical Account of the Works of Nature, 4to. 1721. 3. The Gentleman's and Gardener's Kalender, 8vo. 4. A General Treatise of Husbandry and Gardening, 2 vols. 8vo. 5. Practical Discourses concerning the four Elements, as they relate to the Growth of Plants, 8vo. 6. *Dictionarium Botanicum*, 8vo. 7. *Historia Plantarum Succulentarum*, 4to. Besides these publications his name was prefixed to a translation of Xenophon's (*Economics*, 8vo. In one of his works he describes an instrument somewhat similar to that which Dr. Brewster has since called the Kaleidoscope, but never seems to have used it.

BRADSHAW (John), president of the high court of justice which tried and condemned Charles I. He was born, according to some writers, in Derbyshire, and, according to others, in Cheshire, but is first known in history as a student in Gray's Inn. Being admitted to the bar, he obtained much chamber practice from the partisans of the parliament, to which he was zealously devoted. He was made joint commissioner of the great seal for six months, in 1646; and in the February following, both houses voted him chief justice of Chester. The trial of the king being determined upon, Bradshaw was selected for president, and after a slight hesitation accepted the office. 'Even according to those principles,' says Mr. Hume, 'which in his present situation he was perhaps obliged to adopt, his behaviour in general will appear not a little harsh and barbarous; but when we consider him as a subject, and one too of no high character, addressing himself to his unfortunate sovereign, his style will be esteemed to the last degree audacious and insolent.' His rewards were certainly ample, amounting, it is said, to not less than £4000 a year. He, however, was finally no favorite with Cromwell, on whose appointment to the protectorate he resigned the chief justiceship of Chester. On the death of Cromwell, and the restoration of the long parliament, he obtained a seat in the council, was elected president, and would have been appointed commissioner of the great seal had his health permitted. He died in November, 1659, and on his death-bed is said to have declared that he felt no remorse for having presided at the trial of the king. At the Restoration, his body was disinterred; and being exhibited on a gallows, was buried under it, at Tyburn.

BRADWARDEN (Thomas), archbishop of Canterbury, was born at Hartfield in Sussex about the close of the thirteenth century. He was educated at Merton College, Oxford, where he took the degree of D. D. and was esteemed a profound scholar, a skilful mathematician, and consummate divine. Pitt says he was a professor of divinity at Oxford. From being chancellor of the diocese of London, he became a courtier and confessor to Edward III. whom he constantly attended during his war with France, assisting that victorious prince with his advice, animating the troops, and fervently praying for their success. After his return he was made prebendary of Lincoln, and archbishop of Canterbury. He died at Lambeth in 1349, forty days after his consecration. His works are, 1. *De Causa Dei*, printed in London, 1618, published by J. H. Savil; 2. *De Geometria Speculativa*, &c. Paris, 1495, 1512, 1530; 3. *De Arithmetica Practica*, Paris, 1502, 1512; 4. *De Proportionibus*, Paris, 1495, Venice, 1505, folio; 5. *De Quadratura Circuli*, Paris, 1495, folio.

BRADY (Nicholas), a divine and poet, born at Bandon, in Cork, in 1659. He studied at Westminster, and afterwards at Oxford and Dublin. He was a zealous promoter of the Revolution; and in 1690, when the troubles broke out in Ireland, by his interest with McCarty, King James's general, he thrice prevented the burning of the town of Bandon. Having quitted

several preferments in Ireland, he settled in London, where he was successively promoted to several livings; and at the time of his death was rector of Clapham, minister of Richmond, and chaplain to the duke of Ormond's troop of horse guards. He composed part of the new version of Psalms, still sung in many churches of England and Ireland; the *Æneid* of Virgil, in 4 vols.; and 3 vols of sermons. He died May 20th, 1726.

BRADY (Robert), born in Norfolk in 1643, was master of Caius College, Cambridge, regius professor, and twice representative of that university in parliament. In 1689 he was made keeper of the records in the Tower, and physician in ordinary to James II. He wrote, *An Introduction to the Old English History*; *An History of England, from the time of the Romans to the end of the reign of Richard II.*; and *A Treatise on English Boroughs*. He died in 1700.

BRADYPEPSIA, from *βραδύς*, slow, and *πέψις*, digestion, weak digestion.

BRADYPUS, the sloth, a species of quadrupeds, belonging to the order of bruta. The characters are these: they have no fore teeth in their jaw; the dog teeth are blunt, solitary, and longer than the grinders; they have six grinders in each jaw. The body is covered with hair. There are three species, viz. 1. *B. didactylus* has only two toes on each fore foot, and no tail; the head is round; the ears are large; and it has no mamma on the breast. The body is covered with ash-colored hair. It is a native of Ceylon. 2. *B. trydactylus*, or American sloth, has a short tail, and three toes on each foot. It is about the size of a fox. The body is covered over with hair of a gray color; the face is naked; the throat yellowish; the fore feet are longer than the hind feet; the claws are compressed, and very strong. It has no mamma on the breast; nor any external ears, but only two winding holes. In this and the last species there is only one common excreting canal as in birds. Its food is fruit, or the leaves of trees. It lives generally in the branches of trees; and it is worthy of remark, that it always prefers to move along the underside of the boughs, its strong fore feet enabling it to clasp it in such a manner as to secure its safety; thus passing, as has been wittily observed, the greater part of his life like a young clergyman nearly related to a bishop, in a state of suspense. When it wishes to descend it rolls itself in a ball and drops from the branch, preferring that 'short road' to the ground, to the labor of creeping down the trunk. Nature has guarded this animal against its enemies, by giving it such strength in its feet, that whatever it seizes it holds so fast that it never can be freed from its claws, but must there die of hunger. A dog who has been set upon the animal has thus been known to be retained in its grasp until it was starved. It walks painfully and slowly, dragging itself forward by the strength of its forefeet; turns its head as if astonished; its note an ascending hexachord; cry miserable. 3. *B. pentadactylus*: five toes on all the feet; tail short. A heavy, clumsy, animal, of a mixed resemblance between the sloth and hog; when irri-

tated gives a short harsh cry; catches what is thrown to it with its paws; eats bread, fruit, and eggs, but not roots.

BRAE-MAR, or **BRAE-MARR**, a mountainous district of Scotland, in Aberdeenshire, situated in the middle of the Grampian hills, about fifty miles west of Aberdeen, and one of the three divisions of that extensive territory called Marr. The mountains are the highest in Great Britain, Ben-Nevis excepted. Macduie, Cairntoul, and Breirarch, rising 4300 and 4220 feet above the level of the sea. Here are various colored crystals of considerable value; several forests, and numerous lakes and rivulets. The inhabitants are computed at about only fifteen to a square mile; and in the mountainous parts they do not reside permanently.

BRAG, *v. n. & adj.* } Goth, *braga, braha*,
BRAG'GER, } (from which we have
BRAG'GERY, } our word *brave*);
BRAG'GING, *n.* } *Islandic, brag*; Swedish,
BRAG'GINGLY, } *brage*, a hero; *bragner*,
BRAG'LESS, } an extoller, a heroic
BRAG'LY, } poet, a bard; Danish,
BRAG'GART, *n. & adj.* } *bragska*; Armoric, *bra-*
BRAG'GARDISM, } *ga*; Fr. *braquer*, to ex-
BRAG'GADOCIO. } tol. Junius has ob-
served that *brag* in Scotch is terror, fear; and he quotes several instances from G. Douglas of the word so used; and hence he infers was deduced the English application of the word, to those who endeavour to strike terror into their opponents by the noisiness of their threats. Skinner believes that the word is derived from the Ang.-Sax. *bræc-an*, to break; hence to break or burst out in noisy threats or boastings. Thus we may collect the various meanings of the word—to *brag* is distinguished from the just celebration of our own or another's merit. It implies exaggeration—a person attempting to appear, by his own noisy boasting, either greater, braver, or better than he is. A *brag* is a coward, vaunting his bravery; the ass in a lion's skin, trying to roar when he can only bray. A *braggadocio* is a puffing, swelling, boasting fellow, one who makes clamorous professions.

An horn blew with many boustous *bragge*,
Which all this world with war hath made to wagge.
Chaucer.

Hard by his side grewe a *bragging* brere,
Which proudly thrust into the element,
And seemed to threat the firmament.

Spencer's Shepheard's Calendar.

But it was scornfull *braggadocio*,
That with his servant Trompart hovered there. *Id.*
Seest not thilk hawthorn sturd,
How *bragly* it begins to bud,
And utter his tender head?
Flora now calleth forth each flower,
And bids him make ready Maia's bower.
Shakespeare.

The bruit is, Hector's slain, and by Achilles.—
—If it is so, *bragless* let it be,
Great Hector was as good a man as he. *Id.*

Thou coward! art thou *bragging* to the stars,
Telling the bushes that thou lookest for wars,
And wilt not come? *Id.*

Mark me, with what violence she first loved the
Moore, but for *bragging*, and telling her fantastical
lies. *Id.*

Verona *brags* of him,
To be a virtuous and well-governed youth. *Id.*

A kind of conquest
Cæsar made here; but made not here his *brag*
Of came, and saw, and overcame. *Id.*

Who knows himself a *braggart*,
Let him fear this; for it will come to pass,
That every *braggart* shall be found an ass. *Id.*
Knowledge being the only thing whereof we poor
old men can *brag*, we cannot make it known but by
utterance. *Sidney.*

It was such a new thing for the Spaniards to re-
ceive so little hurt, upon dealing with the English,
as Avellaneda made great *brags* of it, for no greater
matter than the waiting upon the English afar off.
Bacon.

His steward was his kinsman, Vain Exence,
Who proudly strove, in matters light, to show
Heroic mind in *braggart* affluence

Fletcher's Purple Island.
With him such self-admiring arrogance
And *brag*; his deeds without a helper praising. *Id.*

Beauty is nature's *brag*, and must be shown
In courts, at feasts, and high solemnities,
Where most may wonder. *Milton.*
Such as have had opportunity to sound these *brag-*
gers throughly, by having sometimes endured the
penance of their sottish company, have found them
in converse, empty and insipid. *South.*

In *bragging* out some of their private tenets, as if
they were the established doctrines of the church of
England. *Sanderson.*

The rebels were grown so strong there, that they
intended then, as they already *bragged*, to come over
and make this the seat of war. *Clarendon.*

Mrs. Bull's condition was looked upon as desperate
by all the men of art; but there were those that
bragged they had an infallible ointment. *Arb.*

The world abounds in terrible fanfarones, in the
masque of men of honor; but these *braggadocios* are
easy to be detected. *L'Estrange.*

By the plot, you may guess much of the characters
of the persons; a *braggadocio* captain, a parasite, and
a lady of pleasure. *Dryden.*

Every busy little scribbler now
Swells with the praises which he gives himself.
And taking sanctuary in the crowd,
Brags of his impudence, and scorns to mend. *Rose.*
Yet lo! in me what authors have to *brag* on,
Reduced at last to hiss in my own dragon. *Pope.*

As yet, notwithstanding the strutting and lying in-
dependence of a *braggart* philosophy, nature maintains
her rights, and great names have great prevalence.

Burke's Appeal to the Old Whigs.

BRA, a game at cards, wherein as many may
partake as the cards will supply; the eldest hand
dealing three to each person at one time, and
turning up the last card all round. This done,
each gamester puts down three stakes, one for
each card. The first stake is won by the best card
turned up in the dealing round; beginning from
the ace, king, queen, knave, and so downwards.
When cards of the same value are turned up to
two or more of the gamesters, the eldest hand
gains; but the ace of diamonds wins, to what-
ever hand it be turned up. The second stake is
won by what is called the *brag*, which consists in
one of the gamesters challenging the rest to pro-
duce cards equal to his. A pair of aces is the
best *brag*, a pair of kings the next, and so on; and
a pair of any sort wins the stake from the most
valuable single card. In this part consists the
great diversion of the game; for, by the artful
management of the looks, gesture, and voice, it

frequently happens that a pair of fives, treys, or even deuces, out-brags a much higher pair, and even some pairs royal, to the no small merriment of the company. The knave of clubs is a principal favorite, making a pair with any other card in hand, and with any other two cards, a pair royal. The third stake is won by the person who first makes up the cards in his hand thirty-one; each dignified card going for ten, and drawing from the pack, as usual in this game.

BRAGA, an intoxicating liquor in Russia, brewed from wheat.

BRAGA, a considerable city of Portugal, whose archbishop is the primate of that kingdom. It consists of five parishes, is neatly built, and situated in a broad and cultivated vale, in a pleasant part of the province of Entre Douro-e-Minho, on the Este. Its manufacture of hats supplies a great part of Portugal. This city, which contains about 13,000 inhabitants, is about thirty miles nearly north-east of Oporto: a district of the same name encompasses it, containing thirteen cantons.

BRAGANTIA, in botany, a genus of plants: class gynandria, order hexandria. Its generic characters are, *CAL.* none: *COR.* petal one; tube globular; border divided into three; recurved segments: *STAM.* anthers six, adhering to the middle of the style: *PIST.* style thick; *STIG.* concave: *PER.* four-celled and four-valved: *SEEDS* many: Species only one, a shrub growing on the mountains of Cochín China.

BRAGANZA, a duchy of Portugal. Braganza, the capital, is seated on an eminence near the rivulet Fervenza; and divided into the old city and the new. The former is upon an eminence, and fortified with a double wall; the citadel is on the opposite side joined to a wall. The new town is in a plain, near the river Sabor, on the frontiers of Galicia; fifty-five miles north-east of Villa Real; and carries on a silk manufacture. The district of Braganza includes ten adjacent villages.

BRAHE (Tycho), a celebrated astronomer, descended of an illustrious family originally of Sweden, but settled in Denmark, was born December 14th, 1546, at Knudstorp in Schonen. He was taught Latin when seven years old, and studied five years under private tutors. His father dying, his uncle sent him in April 1559 to finish his education at Copenhagen. The great eclipse of the sun on the 21st of August, 1560, happening at the precise time that had been foretold, he began to look upon astronomy as something divine; and purchasing the tables of Stadius, gained some notion of the theory of the planets. In 1562 he was sent by his uncle to Leipsic, to study law; but astronomy engrossed all his thoughts, and in purchasing books on that science he employed all his pocket money. Having procured a small celestial globe, he would wait till his tutor was gone to bed, in order to examine the constellations and learn their names; and when the sky was clear spent whole nights in observing the stars. In 1565 Brahe having quarrelled with a Danish nobleman, they fought and he had part of his nose cut off; which defect he so artfully supplied with one made of gold and silver, that it was not perceivable. About this time he began to apply to chemistry, purposing

nothing less than to obtain the philosopher's stone. In 1571 he returned to Denmark, and was favored by his mother's brother, Steno Billes, a lover of learning, with a convenient place at his castle of Hertritzvold near Knudstorp, for making his observations and building a laboratory. But marrying a country girl beneath his rank, a violent quarrel ensued between him and his relations, and Frederick II. king of Denmark was obliged to interpose to reconcile them. In 1574 he read lectures upon the theory of comets at Copenhagen. In 1575 he began his travels through Germany, and proceeded as far as Venice: he then resolved to remove his family, and settle at Basil; but the king being informed of his design, and unwilling to lose such an ornament to his country, promised, to enable him to pursue his studies, to bestow upon him for life the island of Huen in the Sound, to erect an observatory and laboratory there, and to defray all the expences necessary for carrying on his designs. Our astronomer readily embraced this proposal; and accordingly the first stone of the observatory was laid Aug. 8th, 1576. The king also gave him a pension of 2000 crowns out of his treasury, a see in Norway, and a canonry of Roschild, which brought him 1000 more. James VI. of Scotland, going to Denmark to marry the princess Anne, paid him a visit at Uranibourg, made him several presents, and with his own hand wrote a copy of verses in his praise. After the death of King Frederick, in 1588, he was deprived of his pension, see, and canonry; upon which, finding himself incapable of bearing the expences of his observatory, he went to Copenhagen, whither he brought some of his instruments, and continued his astronomical observations till Valkendorf, chamberlain to Christian IV. commanded him, by the king's order, to discontinue them. He then removed his family to Rostock, and afterwards to Holstein, to solicit Henry Rantzau to introduce him to the emperor Rodolphus; and that gentleman complying, he was received by the emperor at Prague with the utmost respect. That prince gave him a magnificent house, till he could procure one more fit for astronomical observations; assigned him a pension of 300 crowns; and promised, upon the first opportunity, a fief for him and his descendants: but he did not long enjoy this happy situation; for, on the 24th October, 1601, he died of a retention of urine, in the fifty-fifth year of his age. He was interred very magnificently, in the principal church at Prague, and a noble monument was erected to his memory. His skill in astronomy is universally known, and he is famed for being the inventor of a new system, which he endeavoured, though without success, to establish instead of the Copernican. He was of a bad temper, we must add, and very observant of astrological and other omens. His principal works are; 1. *De Mundi Ætherei Recentioribus Phænomenis*; 2. *Astronomia Instaurata Mechanica*, fol. 3. *Tabulæ Rodolphinæ*, revised and published by Kepler, at Tycho's desire, fol. 4. *Stellarum Octavi Orbis Inerrantium Accurata Restitutio*, &c. 5. *Historiæ Cœlestis, Partes Duæ*, &c. 2 vols. fol.

BRAHILOW, a considerable trading town of European Turkey, in Wallachia, the capital of a

district of that name. It stands on the Danube, a branch of which forms a harbour here, and by which it carries on a considerable corn trade. The district is governed by a pacha of three tails, who has his seat in the town. It was formerly the see of a bishop of the Greek church. This town, was twice visited in the year 1770, by the Russians, and nearly burned to the ground. 130 miles S. S. W. of Bender.

BRAHMA, BRAMA, or BRIMHA, in the Hindoo religion, the celebrated deity of Hindostan, from whose person, in various ascending degrees of honor, the four great tribes, or castes, of the Hindoos are said to have proceeded. These castes, from the remotest antiquity, have neither intermarried, taken food, drank, or associated with each other, except when they worship at the great temple of Juggernaut in Orissa, where it would be a crime to make any distinction. From the feet of Brahma were produced the lowest of the castes, viz. that of the Soodra, who generally fill degraded situations and attend to the menial occupations of life. The next caste in this scale, is that of the Byse, Wyse, or Banians, proceeding from the thigh of Brahma, and consisting of merchants, bankers, and shopkeepers. Early writers on Indian affairs have sometimes erroneously ranked all who professed the Hindoo religion under this division. See BANIAN. Sometimes the Byse, are said to have been produced from the belly of Brahma, in allusion to the nourishment and provision which commerce diffuses through the state. The next in order of precedence, is the Ketri, or Cuttery tribe, or military; called also the royal caste, produced from the heart of Brahma. All their kings and rulers should belong to it; its supposed origin indicating the prudence and courage which should distinguish soldiers and rulers. The highest of all the class is that of the Brahmins, or sacerdotal caste, said to have been produced from the head of Brahma, to establish their superiority over all the rest.

A holy obscurity is attached to the mode of Brahma's existence, and various subordinate agents are employed to conduct his government of the world. The two principal of these are Vishnu, the preserver; and Siva, the destroyer; who are said to have been many times avatar, or incarnate; and hence the imagination of the Hindoos has clothed them with a variety of visible forms, each of which has become a distinct deity, to whom worship is daily addressed. Without supernatural intervention, therefore, nothing is done in earth, air, or sea; in consequence of which the winds, the sea, the heavens, the earth, the elements, the sun, the stars, fountains, and streams, are either converted into deities, or each placed under the immediate guardianship of one of this train of gods who crowd the Brahminical heaven. The assemblage is still farther swelled by myriads of demi-gods, many of whom are deifications of the most disgraceful passions and propensities of our nature. Among the animals which have become objects of adoration, the cow is the most sacred in many parts of India. She is frequently called the mother of the gods; and many are kept by the rich for the purpose of being worshipped.

BRAHMINS, BRACHMANS, or BRAMINS, called *Βραχμανα*, Gr. the first of the Hindoo castes, proceed, we are told (see preceding article), from the head of Brahma, and are the only caste that can officiate in the priesthood. The Ketri, the next most honorable tribe in the descending scale of castes, and comprehending all the higher orders of civil society, have the distinguished honor of hearing, for they must not read, the Vedas, or sacred books: this is the exclusive honor of the Brahmins. If a Soodra were convicted of so much as hearing a passage from the Vedas, or Shasters, boiling lead is directed by their oracles to be poured into his ears for his presumption. One could almost imagine some of this favored tribe had been consulted by the western priesthood, in times not very remote from the present, on the policy of giving the Bible to the common people. It is certain, however, that they have not had the courage to adopt any punishment, either so characteristic or so effectual as the Hindoo one. The Hindoo regards the person of a Brahmin as sacred above all things: it is the greatest impiety to fail in the prescribed rules of respect and reverence; and to cause his death, or violate his wife, is a crime without pardon. Of course the boundless influence and inviolability of the order has been subject to the most shocking abuses. A Brahmin, supposing himself aggrieved, has been known to take his mother or his child, and going into the presence of the person who has injured him, to demand satisfaction or threaten to stab them to the heart; and the shameful deed has been, on refusal of such satisfaction, often perpetrated. The person supposed to have driven him to this extremity is henceforth considered as profane, and viewed by the multitude with the most extreme horror. The Brahmin will sometimes sit in dudgeon or dhurna, as it is called, before the door of his enemy, and threaten to take away his own life if he offers to come out of his house before he has given satisfaction: and, as a Brahmin never avows such a design without a determination to carry it into effect, the object of his wrath must either submit to his will, whatever it may be, or incur the odium of having occasioned a Brahmin's death; almost equal to the unpardonable sin of having inflicted it. Our government has endeavoured to check this practice; and ordered every Brahmin discovered sitting in dhurna to be apprehended.

Other customs connected with the inviolability of this order are not cognizable by law, and are inveterate habits of the Hindoos. The slaughter of a Brahmin's cow demands the offering of ten cows and a bull in reparation, and a certain penance to be performed thirty days; in which the head of the offender is shorn, he is clothed in a cow's hide, eats barley mixed with cow's urine, bathes in that fluid for two months, &c.

The whole learning of India has been for ages in the hands of the Brahmins. Many of the Grecian sages, we know, travelled into India to become their pupils, and speak of them under the name of Brachmans, as holding the doctrine of the immortality of the soul, and a state of future rewards and punishments. To this species of knowledge the Brachmin sadded an infinite num-

ber of religious observances, adopted by Pythagoras; such as fasting, prayer, silence, and contemplation. They were looked upon as the friends of the gods, because they affected to pay them so much regard; and as the protectors and benefactors of mankind. No bounds were, therefore, set, at this remote period, to the respect that was shown them: princes did not scruple to consult them upon any critical conjuncture, from a supposition that they were inspired, and all classes venerated them as absorbed in the pure delight of science. But we must not look for the knowledge of the ancient Gymnosophists among the modern Brahmins: their scientific attainments are perfectly despicable, and those ancient records extant among them, to which some writers would attribute an unparalleled antiquity, are, in fact, a tissue of absurd allegories, or extravagant and obscene fables, which common decency forbids to be expounded, quite as jealously as the interests of this artful priesthood.

If Eusebius is correct in stating that the Brahmins of his day worshipped no images (see *Præpar. Evangelica*, lib. vi. c. 10), the modern sect is in this respect also wretchedly degenerated. True it is, that the Vedas and Shasters assert the unity of God, and illustrate it in sublime and beautiful language; but they introduce also such a complicated machinery of providential and natural agents, that polytheism is the doctrine of the Vedas to a simple mind. The subordinate deities accordingly, although employed by the supreme Brahma, and dependent on him in the government of the universe, attract far more notice; mankind are more closely connected with them. Thus the worship of the Virgin and the saints in the Romish church has at times almost superseded that of the Most High; and in the Indian mythology, it is remarkable that Brahma himself has not a temple devoted to his service, while thousands of pagodas are erected in honor of the inferior deities. The Brahminical priesthood maintains its high honors in one respect in a manner peculiar to itself. It absolutely places, as we have seen, the holders of sceptres and thrones in an acknowledged inferior caste; a circumstance that clearly indicates the high antiquity of the order. In the earliest ages only had the priestly office such influence as to be able to mould the government and manners of a state; then it united, in the same person, the priest and the king. The Brahminical system is evidently an improvement on this. They have devolved the business of civil government on an inferior order, which must act in all respects under their directions.

‘A priest,’ say the institutes of Menu, ‘who well knows the law, needs not complain to the king of any injury, since, even by his own power, he may chastise those who injure him; his own power is mightier than the royal power; by his own might, therefore, may a Brahmin coerce his foes. He may use without hesitation the powerful charms revealed to Athawan and Angiras; for speech is the weapon of a Brahmin; with that he may destroy his oppressors. Let not the king, although in the greatest distress, provoke Brahmins to anger, for they, once enraged, could immediately destroy him with his troops, ele-

phants, horses, and cars. Who without perishing could provoke those holy men, by whom the all devouring flame was created, the sea with its waters not drinkable, and the moon with its wane and increase? What prince could gain wealth by oppressing those who, if angry, could frame other worlds and regents of worlds, could give being to other gods and mortals? What man desirous of life, would injure those by the aid of whom worlds and gods perpetually subsist, those are rich in the knowledge of the Veda? A Brahmin, whether learned or ignorant, is a powerful divinity; even as fire is a powerful divinity, whether consecrated or popular. Thus, though Brahmins employ themselves in all sorts of mean occupations, they must invariably be honored, for they are sometimes transcendantly divine.’

The morality of this system has been also a subject of eulogy; and many excellent precepts are unquestionably to be extracted from the Vedas; but nothing can be more vile or wretched than the general practice. European writers, who contend earnestly for the antiquity and high moral pretensions of the system, do not scruple to admit that some ignorant or intriguing Brahmin is generally connected with all the robberies and murders of the country. M. Dubois says, that one of their own number defined a Brahmin as ‘an ant’s nest of lies and impostures.’ This same writer adds, that there is nothing in which the Brahmins so far excel the other Hindoos as in the art of lying. ‘It has taken so deep root among them, that so far from blushing when detected in it, many of them make it their boast.’ Captain Wilford states that a learned pundit of Benares, who had been employed by him to translate one of the puranas, interpolated the memorable story of Satyawatra and his three sons, corresponding exactly with that of Noah, in our Bibles. When captain Wilford discovered this trick, he sent for the pundit to upbraid him; but he swore by every thing sacred there was no imposition; and brought, in corroboration of his testimony, ten of the most celebrated pundits of Benares, who were ready to depose to the same falsehood! Brahmins, by the subdivision of their order, are allowed, as we shall see, to engage in all the affairs of civil life; nothing appears unsuited to their habits that can promote their aggrandisement. The Mah-ratta Paishwa was lately a Brahmin; his troops are generally composed of Brahmins; and it is well known that, excepting a cow and a Brahmin, nothing, throughout his vast dominions, is secure from rapine.

The puerility of their superstitions, the multiplicity of their self-inflicted atonements, as they are thought, for crimes, and the affected mystery of their devotions, tend doubtless to perpetuate this system. Every religion abundant in human ceremonies, has been proportionably deficient in its moral influence. The cow is sacred—abstinence from animal food the most important of religious or moral requirements. To touch the flesh of the cow in the way of food, is regarded as the highest pollution, and involves a forfeiture of caste, even in the case of those who have been involuntarily guilty. Tippoo Saib is therefore

said to have forcibly converted a great many of his Hindoo subjects to the Mussulman religion, by sprinkling them with cow broth; by which means they were for ever rendered unclean in the eyes of their countrymen, and were glad to seek an asylum from reproach, by embracing the religion of that tyrant. It may be matter of conjecture whether the Indian has borrowed this veneration of the cow from the ancient Egyptian system, or the Egyptian from the Indian; but the similarity between them will be instantly perceived, and some Indian festivals to this animal are said strikingly to accord with the rites of Apis, as described by historians.

Their self-inflicted penances also at once encourage bad morals and false religion, while they, in particular cases, heap up the sum of human misery and wretchedness to an intolerable degree. We have seen how the Brahmin will expose, and even give up his own life, in the pursuit of vengeance, or the accomplishment of some favorite scheme. This prodigality of life and suffering has always distinguished their devotions, being considered not only as meritorious, but as capable of procuring a supernatural power for the deluded devotees. Suicide is also in various instances regarded as laudable. The immolation of widows on the funeral pile of their husbands, and the wretched victims of the car of Juggernaut, are well-known examples. A modern poet has well said of

The Brahmin, kindling on his own bare head

The sacred fire.—

If sufferings Scripture no where recomends,
Devised by self to answer selfish ends,
Give saintship, then all Europe must agree,
Ten starveling hermits suffer less than he.

The Brahmins formerly made a greater mystery of their doctrines than is now attempted. In all their intercourse with strangers, there was nothing they shunned so much as communicating their tenets in philosophy and religion. When, therefore, the celebrated Ackber, the wisest of all the princes of the Mahomedan dynasty in India, was anxious to become acquainted with their doctrines, he found all his efforts unavailing, until, as the abbé Raynal tells us, he at last adopted the expedient of imposing on a celebrated Brahmin at Benares, a youth of the name of Feizi, by persuading the Brahmin that Feizi belonged to the Brahminical cast. The youth was joyfully received, and instructed in all the mysteries of Sanscrit literature; when the time, however, approached that he should depart, and communicate to Ackber the secrets which he had gained, he felt himself detained by a violent attachment to the Brahmin's daughter: the ancient sage threw no obstructions in the way of their mutual passion; he even offered his daughter in marriage to Feizi. The young man, thinking it ungenerous any longer to deceive his benefactor and instructor, now fell down on his knees, and confessed the imposture which had been practised. The Brahmin, without uttering a word of reproach, drew a dagger, and was on the point of plunging it into his own breast, when Feizi prevented him, protesting that he would do whatever he required of him; upon this, the Brahmin

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imposed a solemn oath, that he should never translate the vedas, nor divulge the information which he had obtained.

Of late, it has been found impracticable to preserve the vedas or sacred books from European inquisitiveness and research; yet to peruse, and to make them intelligible to others, have been found very different tasks.

Some considerable attainments in the exact sciences, and in poetry, must not be denied to the ancient Brahmins. The origin of our modern system of arithmetical notation has been shown to be crit, and the translations lately made from the Beja Ganita, and Lilavati, prove that Algebra was early and extensively cultivated by the Hindoos. These works contain specimens of indeterminate analysis, in which the subjects are treated in a manner entirely different from those in the early Greek treatise of Diophantus. It cannot therefore be doubted, that the entire process was of eastern invention. In their poetry the imagination luxuriates in all the flowers, and fruits, and balmy breezes, of oriental scenery. It is scenery, however, not human feeling that is described; the passions and senses, and not the heart, that are addressed. Sir William Jones has given a specimen of these amatory poems in his translation of the songs of the Jayadeva, which relate to the two brightest lights of love in the heaven of India. These dramatic compositions and fables have always formed principal branches of oriental literature. In the whole compass of that literature nothing can be found that deserves the name of history, or even of geographical knowledge. It has long been remarked, says a sensible modern writer, that science and literature are in a progressive state of decay among the natives of India, the number of learned men being not only diminished, but the circle of learning, even among those who devote themselves to it, greatly contracted. The abstract sciences are abandoned, polite literature neglected, and no branch of learning cultivated but what is connected with peculiar religious sects and doctrines, or with the astrology of the people. The immediate consequence of this state of things is the disuse, and even actual loss, of many valuable books; and it has been feared by many, that unless government interfered with a fostering hand, the revival of letters among the natives would become hopeless, from want of books, and of persons qualified to explain them.

Modern researches into their sacred books and institutions have exhibited the occupations and duties of the Brahmins as divisible into these seven; 1. The study and illustration of the Védas; 2. Of the other Sastras, or every secular branch of science; 3. The general instruction of others; 4. The performance of the yajirya, or jag, a peculiarly holy sacrifice; 5. The púja, or ordinary worship of the gods; 6. The giving of dána, or alms; and 7. receiving them either personally, or on the behalf of particular deities. Four of these duties being according to the D'herma Sastra, or moral code, religious, and three civil, or connected with the subsistence of this tribe. Ten other ancient subdivisions of the class have been specified; viz. 1. The Devas, who sacrificed for themselves, and were learners

of religion; 2. Munis, who were teachers, but did not perform sacrifices; 3. Devoijas, both active and passive agents in all Bráhmical duties; 4. Rájás; 5. Vaisyas; 6. Súdraz, performing the duties required from the caste, whose names they respectively bore; 7. Bidálas or mendicants; 8. Pashus or reprobates, neglecting all rules; 9. Mléch'has or infidels adopting foreign customs; and 10. Chandálas or outcasts who eat any thing. A further division of this last class was derived from the countries whence they originally sprung. All these distinctions seem now to be lost, and the whole of the Brahmins in Bengal are supposed to be derived from five priests, invited from Cányacubja by Adisúra, king of Gaur, who reigned about three centuries before Christ. Ballála Sena, who reigned in the twelfth century, settled the question of precedence between the 156 families which had at that period sprung from these colonists, and the distinctions then fixed, remain to this day.

The Sāstras present four states or degrees, called āsrama, through which every brahmin should pass, and which are designed to occupy him during the four distinct periods of youth, manhood, age, and final infirmity. These are named Brahminchārya or Brahminchāryon, Grihast'ha, Vānaprast'ha and Brahminjyāni. The first a sort of noviciate, continues till marriage; the second terminates at the age of fifty; the third is devoted to the strictest religious contemplation; and the last is considered as the highest pitch of perfection, attainable by man; consisting in a complete abstraction from human passions, and absorption in divine meditation. The forms and duties of these states are pointed out in the Institutes of Menu, and the sacred books. From these we learn, that when the father of a family perceives the symptoms of age coming fast upon him, and sees the child of his child, he is to abandon human society, and the food to which he had been accustomed, to retire either alone, or accompanied by his wife, to a lonely wood, where he is to light his consecrated fire, to make his oblations, to gain a complete ascendancy over his organs of sense and action, to live on that food only which holy sages are accustomed to eat—green herbs, roots, and fruit; to perform the five great sacraments, introducing them with prescribed and appropriate ceremonies. Here he is also to wear a black antelope's hide, or a vesture of bark, to bathe evening and morning, to suffer the hairs of his head, his beard, and his nails to grow, without the unhallowed intrusion of a barber or his razor, or nail-knippers, the abomination of abominations. By abstinence, he is to take care that he has a surplus even of his simple fare, to make offerings, and give alms to those that visit his hermitage. He is to be patient under sufferings, universally benevolent, with a mind devoutly fixed on the Supreme Being; and, above all, he must be constantly engaged in reading the Vedas; to be a perpetual giver, but no receiver, of gifts; and to be especially tender and affectionate towards all the forms of animated nature, however disgusting and filthy. It is also peculiarly enjoined upon him,

as the very perfection of saintly virtue, to slide backwards and forwards on the ground; to stand a whole day on tiptoe; to continue in perpetual motion, rising and sliding alternately; and at sunrise, at noon, and sunset, to visit the waters and bathe. In the hot season he is to expose himself to five fires, four blazing around him, and the sun above him. In the rain he is to stand uncovered, without even a mantle, and where the clouds pour their heaviest torrents, there he is patiently to bear all their fury; in the coldest season he is to immerse his cloaths, that they may be always wet and comfortless; and with all this he is to increase, by degrees, the austerity of his devotion. A number of other and similar cruel absurdities complete the tragedy of Hindoo piety; and the Brahmin, who has been able thus heroically to shake off his body, that is, by a series of inflictions, every one of which bears the character of suicide, to terminate his life, rises to exaltation in the Divine presence.

Whether the extent of Hindostan, and its remoteness from the scene of European politics and frequent conquest, have favored the permanency of this system, or, whatever may be the causes, the fact is clear that altogether the same and singularly unchangeable it has remained for several thousands of years. India, in fact, was entirely undisturbed by the inroads of conquerors till the period of the Mahomedan invasion. We say nothing of the fabulous exploits of Bacchus; and Alexander the Great scarcely made any impression upon it. The shock which it received from the Mussulman invaders was certainly considerable: they swayed the sceptre, which in their hands was a rod of iron, over the greatest part of Hindostan, and left no art unemployed, which the most bigotted and cruel policy could devise, to establish Islamism on the ruins of the Brahminical institutions. Thus, doubtless, were those institutions in some measure affected, and they have since been considerably modified by European intercourse. Yet is there a character of indomitable tyranny and permanency about this system as a whole, which no human power or influence has materially shaken. Conquest, to the degree it has operated on other countries, and changed the customs and manners of the subdued into those of the subjugating power, has never permanently triumphed here. Other religions have never finally displaced the dark and cruel sway of this; it remains, we trust, for the happier intercourse of Great Britain with those regions, when her dreams of conquest shall disturb her or them no more, and when her only immortal system of religion shall have fully developed itself in her own character, to be the final means of overthrowing this gigantic mass of superstition and folly.

BRAID, *v. n.* & *adj.* Goth. *brad*; Swed. *bragd*, from Goth. and Swed. *bregda*, to change, *auga bragd*, a turn of the eye. A sudden movement; a strait and rapid turn; a nod, a wink, or the habit of winking. Shakspeare uses the adjective in the sense of violence as well as celebrity. The Ency. Met. gives it a far more extended meaning; according to that work, to braid is to break, pull, or tear; to leap or spring;

to make an irruption, sally, assault, onset, insurrection, revolt. But the illustrations adduced do not bear out the applications.

For veray wo, out of his wit, he *braide*,
He n'iste not what he spake. *Chau. Cant. Tales.*

And when he saw how stille that I lay,
He was agast and wold have fled away,
Til at the last out of my swough I *brayde*. *Id.*

Wher is this false tyrant, this Neroun ?
For fere, almost out of his wit he *brayde*,
And to his goddess piously he preide
For succour. *Id.*

But when, as I did out of sleep *abray*,
I found her not where I her left whyleare,
But thought she wandered was, or gone astray.
Spenser.

DIANA. Since Frenchmen are so *braide*,
Marry that will, I live and die a maid.
Shakspeare.

BRAD, or } Islan. *bregda*; Ang.-Sax.
BREID, v., n. } *bredan*; Teut. *briden*; from
BRAIDED, adj. } Goth. *bry*, a point, a knitting-needle. To knit, to plait, to wreath.

The single twyned cordes may no such stresse endure
As cables *brayded* threfould may, together wrethed
sure. *Surrey.*

Listen where thou art sitting,
Under the glossy, cool, translucent wave,
In twisted *braids* of lillies knitting
The 'oose train of thy amber-dropping hair.
Milton.

Close the serpent sly,
Insinuating, wove with gordian twine
His *braided* train, and of his fatal guile
Gave proof unheeded. *Id.*

Osier wands, lying loosely, may each of them be
easily dissociated from the rest; but, when *braided* into
a basket, they cohere strongly. *Boyle.*

A ribband did the *braided* tresses bind,
The rest was loose, and wantoned in the wind.
Dryden.

No longer shall thy comely tresses break
In flowing ringlets on thy snowy neck,
Or sit behind thy head, an ample round,
In graceful *braids*, with various ribbon bound.
Prior.

Since in *braided* gold her foot is bound,
And a long trailing manteau sweeps the ground,
Her shoe disdains the street. *Gay.*

All the shadowy tribes of mind,
In *braided* dance their numbers joined,
And all the bright uncounted powers,
Who feed on heaven's ambrosial fowers.
Collins' Ode on the Poetical Character.

Who late so free as Spanish girls were seen
(Ere war uprose in his volcanic rage),
With *braided* tresses bounding o'er the green,
While on the gay dance shone night's lover-loving
queen ? *Byron.*

BRAIDWOOD (Thomas), a native of Edinburgh, is said to have been the first of our countrymen who attempted the task of giving general instruction to the deaf and dumb. This, however, had been previously practised in a partial way by Dr. John Wallis, Henry Baker, and others. In 1760 Mr. Braidwood first commenced his great undertaking, and removed, in 1783, from Edinburgh to Hackney, where, in conjunction with his son-in-law, he continued for many years to pursue his profession. He died in 1806. See DEAF AND DUMB.

BRAIL', v. & n. Fr. *bresle, brêlle, breuiller*, to reef; a brace line in a ship. Brails are small ropes, reeved through blocks, which are seized on either side the ties, a little off upon the yard; so that they come down before the sails of a ship, and are fastened at the skirt of a sail to the crenegles. Their use is, when the sail is furled across, to haul up its bunt, that it may the more readily be taken up or let fall. The operation of drawing the sails together, by means of these ropes, is called *brailing* them up, or *hauling* them up, in the brails.

The main-sail, by the squall so lately rent,
In streaming pendants flying is unbent;
With *brails* refixed, another soon prepared,
Ascending spreads along beneath the yard.
Falconer's Shipwreck, Can. ii.

With ruin pregnant now the clouds impend,
And storm and cataract tumultuous blend.
Deep on her side the reeling vessel lies;
Brail up the mizen quick ! the master cries.
Id. Can. ii.

BRAIN', v. & n. } Goth. *huarn*; Swedish
BRAIN'ISH, } *hierna*; Old Eng. *harne*;
BRAIN'LESS, } Belgic, *brein*; Ang. Sax.
BRAIN'PAN, } *bragin*; Teut. *pregin*; cor-
BRAIN'SICK, } responding with *Περικρα-*
BRAIN'SICKLY, } *νov*. The soft substance
BRAIN'SICKNESS, } within the skull. That
BRAIN'WORM, } collection of vessels and
organs in the head from which sense and motion
arise; the part in which the understanding is
placed; therefore metonymically taken for the
understanding. To brain, is to dash out the
brains; to kill by beating out the brains.
Brainish, is hot-headed, furious, answering to
cerebrosus in Latin. Brainless signifies mental
imbecility; and brainsick, is to be diseased in the
understanding; addleheaded, giddy, thought-
less.

O Thought! that wrote al that I met,
And in the tresorie it set
Of my *braine*; now, shal men yse,
If any vertue in the be.

Chaucer's House of Fame.

The fear whereof oh how doth it torment
His troubled mind with more than hellish paine !
And to his feigning fansie represent
Sights never scene, and thousand shadowes vaine,
To breake his sleepe, and waste his ydle *braine* :
Thou that hast never loved cannot belevee
Least part of the evils which poore lovers grieve.

Spenser's Hymns,

In his lawless fit,
Behind the arras hearing something stir,
He whips his rapier out, and cries, a rat !
And, in his *brainish* apprehension, kills
The unseen good old man. *Shakspeare.*

Nor once deject the courage of our minds,
Because Cassandra's mad; her *brainsick* raptures
Cannot distaste the goodness of a quarrel. *Id.*

Why, worthy Thane,
You do unbend your noble strength to think
So *brainsickly* of things. *Id.*

Why, as I told thee, 'tis a custom with him in the
afternoon to sleep; there thou mayest *brain* him. *Id.*

If the dull *brainless* Ajax come safe off,
We'll dress him up in voices. *Id.*

My son Edgar! had he a hand to write this, a heart
and *brain* to breed it in ? *Id.*

If I be served such another trick, I'll have my brains taken out, and buttered, and give them to a dog for a new year's gift. *Id. Merry Wives of Windsor.*

Some brainless men have, by great travel and labour, brought to pass, that the church is now ashamed of nothing more than of saints *Hooker.*

In the upper region serving the animal faculties, the chief organ is the *brain*, which is a soft, marrowish, and white substance, ingendered of the purest part of seed and spirits, included by many skins, and seated within the skull or *brain-pan*, and it is the most noble organ under heaven, the dwelling-house and seat of the soul; the habitation of wisdom, memory, judgment, reason, and in which man is most like unto God; and therefore nature hath covered it with a skull of hard bone, and two skins or membranes, whereof the one is called *dura mater*, or *meninx*; and the other *pia mater*. *Burton's Anat. Mel.*

That man proportionably hath the largest brain, I did, I confess, somewhat doubt, and conceived it might have failed in birds, especially such as having little bodies, have yet large craniums, and seem to contain much brain, as snipes and woodcocks; but, upon trial, I find it very true. *Brown's Vulgar Errors.*

The *brain* is divided into *cerebrum* and *cerebellum*. *Cerebrum* is that part of the *brain* which possesses all the upper and forepart of the cranium, being separated from the *cerebellum* by the second process of the *dura mater*, under which the *cerebellum* is situated. The substance of the *brain* is distinguished into outer and inner; the former is called *corticalis*, *cinerea*, or *glandulosa*; the latter, *medullaris*, *alba*, or *nervæ*. *Cheselden.*

This *brainworm*, against all the laws of dispute, will needs deal with them here. *Milton's Colastestion.*

A man is first a geometrician in his brain before he be such in his hand. *Hale.*

With those huge bellows in his hands, he blows New fire into my head; my *brainpan* glows. *Dryden.*

Outlaws of nature,

Fit to be shot and *brained*, without a process,

To stop infection; that's their proper death. *Id.*

In a gushing stream

The tears rushed forth from her o'erclouded brain,
Like mountain mists at length dissolved in rain. *Byron.*

BRAIN. In the article *ANATOMY* both a general and particular description will be found of this organ, its investments, and its connexion with the whole sentient system; and, under the word *PHYSIOLOGY*, the functions of the brain and nerves will be more largely dwelt upon; it is our design in the present article to trace more minutely than is done in anatomy the gradual growth and development of the brain, to give the chemical analysis of the matter by which it is formed, to remark on the difference in size and complication that obtains between the human brain and the brain of inferior animals, and to advert to some hypotheses that have been offered to solve the very difficult problem of sentient, perceptive, and motive agency.

Until within the few past years, the brain has generally been regarded as the origin and source of the spinal marrow and nerves; but were this the case, say some of our more modern physiologists, the brain itself, or, as some term it distinctively, the cranial brain, would be found the first formed in the fœtus, which it is not; and it is very important, they say, to observe that the spinal marrow, or, more properly speaking, the spinal chord, is very large in the inferior classes

of animals, while the brain is comparatively much smaller. It would appear, indeed, according to the observations of those physiologists who have given this subject their minutest attention, that 'the spinal chord is itself produced from the ramifications of the sympathetic ganglia; that the semilunar ganglion is the first part of the nervous system to assume an organised state; and that the subordinate ganglia, the spinal marrow, and, lastly, the brain, come successively into existence, and gradually arrive at their full development.'

The mode in which this gradual increment comes to be effected is exceedingly curious and interesting; it would appear that a mere gelatinous membranous substance constitutes the first germ of both nervous and encephalic formation, and that successive deposits are made of those materials which in the event come to be true cerebral substance, in a mode somewhat allied to the gradual formation of bony substance (see *BONE*) upon the membranous and cartilaginous matrix, which always precedes true bone. The vegetable fibres, originating from a certain quantity of grayish substance deposited in the sap of plants, is likewise a formation of a somewhat similar kind; but on this subject we shall have to enlarge, when treating on the nervous system, more particularly. See *Dr. Copland's Notes to his edition of Richerand's Physiology.*

About the third or fourth week from conception, a grayish-white fluid may be detected in the cavities of the head and spine, and there is a gradual development both upwards and downwards of the spinal chord; and the brain evidently, we are told, results from its prolongation upward and forwards, so as to form the two eminences, at the base of the brain, called olivary and pyramidal. Tiedeman, from whom we now quote, states that all the superior part of the spinal marrow is at this time open, or, more properly speaking, forms a broad gutter, which at once comprehends the third ventricle, the aqueductus sylvii, the fourth ventricle, and the calamus scriptorius. This gutter is uninterruptedly continuous with the canal which traverses the whole length of the marrow.

The *cerebellum*, according to this author, evidently originates from the spinal marrow; from the lateral parts of which arises on each side a small flattened chord. These two, at first so distinct and separate that they may be readily parted without laceration, afterwards unite so as to form the roof of the fourth ventricle. Then, only, the brain, viewed from above, ceases to represent a gutter; and the laminae and branches of the *cerebellum* are formed at a much later period.

The mass which supports the tubercula quadrigemina equally shows itself, in its origin, under the form of two small thin membranes, which arise from the olivary chords of the spinal marrow; and which, when they cease to be distinct, represent a vault covering a large ventricle, whose successive contraction gives rise to the aqueductus sylvii.

The pyramidal choros of the spinal marrow, which take a direction below upward, and from behind forward, after having produced two swellings or ganglia, the optic thalami and corpora striata, each terminates by a lamina, which, bent

from before backward, and from the side towards the superior and internal part, forms the commencement of the hemisphere of the brain. These membranes, and their hemispheres, are so small at the second month that they scarcely cover the corpora striata. In proportion as they increase they extend backward, and cover at the third month the optic thalami; at the fourth the tubercula quadrigemina; and, at the sixth or seventh, the cerebellum. The lateral ventricles result from their inversion.

The medullary fibres of the pyramidal chords, previously to the formation of the tuber annulare, are immediately continuous with those of the crura cerebri; whence the eye may readily trace them in the optic thalami, and corpora striata, and see them afterwards spreading and radiating in the hemispheres.

The parietes of the hemispheres gradually increase in thickness in proportion as new strata of cerebral substance are deposited on their surface; and convolutions are not decidedly seen till towards the close of pregnancy.

All these combined facts clearly demonstrate, in the opinion of many physiologists of the present day, that the brain and cerebellum proceed from the spinal marrow; or that, to employ a modern expression, they are an efflorescence of it. In running through the scale of animals, ample confirmation, it is said, may be found of the assertions here advanced. The structure of the encephalon and spinal marrow becomes complicated in proportion as we ascend from fishes to reptiles, birds, and mammalia; as we ascend through these four classes we find the brain gradually to increase in volume and complication, until it arrives at its largest and most complicated structure in the human species;—that is, largest, in proportion to the spinal chord from which, according to the above view, it proceeds:—and it is necessary to recollect this relative or proportionate circumstance to which we now allude, inasmuch as that position is not absolutely true which states man to have the largest brain of any animal, in proportion to the size of his body. We shall here avail ourselves of the labors of Mr. Lawrence, who has been at great pains to collect information on this interesting point.

‘It has been asserted,’ says Mr. L. ‘from remote times, that the brain of man is larger than that of any animal; and I know of no exception to this assertion of Aristotle and Pliny, besides the elephant, unless the larger cetacea should be as well supplied with brain, in proportion to their size, as the smaller. Certainly all the larger animals, with which we are more commonly acquainted, have brains absolutely smaller, and considerably so, than that of man. This, indeed, may easily be shown by a comparison of skulls; by contrasting the compressed, narrow, elongated, crania of brutes, hidden behind their enormous jaws and face, with the length, breadth, and ample vault of the human ‘cerebri tabernaculum,’ whose capacious globular expanse surmounts and covers the inconsiderable receptacles of the senses and alimentary apparatus.’

In later times the subject has been investigated in a different way; by comparing the proportion which the mass of the brain bears to the whole

body. The result of this comparison in the more common and domestic animals was deemed so satisfactory, that, without prosecuting the enquiry further, a general proposition was laid down, that man has the largest brain in proportion to his body. More modern physiologists, however, in following up this comparative view in a great number of animals, have been considerably perplexed at discovering many exceptions to the general position. They found that several mammalia, as the dolphin, seals, some quadrumana, and some animals of the mouse kind, equal the human subject, and that some small birds even exceed him, in this respect.

As these latter observations entirely overturned the conclusions which had been before generally admitted, Soemmering has furnished us with another point of comparison, viz. that of the ratio which the mass of brain bears to the bulk of the nerves. Let us divide the brain into two parts; that which is immediately connected with the sensorial extremities of the nerves, which receives their impressions, and is therefore devoted to those common wants and purposes which we partake with animals. The second division will include the rest of the brain, which may be considered as the seat of the mental phenomena.

In proportion, then, as any animal possesses a larger share of the latter and more noble part, that is, in proportion as the organ of reflection exceeds that of the external senses, may we expect to find the powers of the mind more diversified and more fully developed. In this point of view man is decidedly pre-eminent; although in his senses and common animal properties he holds only a middle rank, here he surpasses all other animals that have been hitherto investigated: he is the first of living beings. ‘All the simiæ’ (says Soemmering), come after him; for although the proportion of their brain to the body, particularly in the small species with prehensile tails, is equal to that of man, their very large eyes, ears, tongue, and jaws, require a much larger mass of brain than the corresponding parts in the human subject; and if you remove this, the ratio of the brain to the body is much diminished.

‘Animals of various kinds seem to me, ‘continues this able physiologist’, to possess a larger or smaller quantity of this superabundant portion of brain, according to the degree of their sagacity and docility. The largest brain of a horse which I possess, weighs one pound seven ounces; the smallest human brain that I have met with in an adult, two pounds five ounces and a quarter. But the nerves in the basis of the horse’s brain are ten times larger than in the other instance, although the brain itself weighs less by fourteen ounces and a quarter.

‘But we are not hastily to conclude that the human species have smaller nerves than any other animals. In order that my ideas may be better understood, I shall state the following imaginary case. Suppose the ball of the eye to require 600 nervous fibrils in one instance, and in another, half the size, 300; further, that the animal with 600 fibrils possesses a brain of seven, and that with 300 a brain of only five drams. To the latter we ought to ascribe the larger brain, and a more ample capacity of registering the impres-

sions made on the organ of vision. For, allowing one dram of encephalon to 100 fibrils, the brain which is absolutely the least, will have an overplus of two drams, while the larger has only one. That the eye which is supplied with a double quantity of fibrils, may be a more perfect organ of sense, will be readily admitted; but that point is not connected with the present question.

From what has been above intimated, it will be inferred that the human brain greatly differs from that of other animals, not merely in relative magnitude, but in its degree of complication; it is a remarkable fact, that no parts are found in the brain of animals which man does not possess; while many of those found in the human subject are either less in the inferior animals, or entirely wanting; but the most striking character of the human brain, as justly remarked by Lawrence, is the prodigious development of the cerebral hemispheres, to which no animal, whatever ratio its whole encephalon may bear to its body, affords any parallel. It approaches most nearly to the spherical figure, has more numerous and deeper convolutions, and the medullary is in greater proportion to the cortical substance. The sandy or earthy matter of the pineal gland in the adult brain is almost confined to the human subject; its absence being an anomaly in structure with us, its presence being perhaps equally anomalous in the brute creation. A curious exception, however, to that relative magnitude of the cerebrum compared with the spinal marrow which is generally found in man, is observed in the dolphin; this last animal has a brain of a breadth of twice its length; a proportion of which there is no other instance in the animal kingdom.

The following table has been constructed for representing the weight of the brain, compared with the body, in different animals:—

In man from . . .	$\frac{1}{2}$ to $\frac{1}{3}$ part.
Several Simiæ . . .	$\frac{1}{2}$
Dog	$\frac{1}{10}$
Elephant	$\frac{1}{30}$
Sparrow	$\frac{1}{25}$
Canary-bird	$\frac{1}{14}$
Goose	$\frac{1}{30}$
Turtle (smallest) . . .	$\frac{1}{300}$

The chemical composition of the brain seems quite peculiar. It is composed, according to the experiments of Vauquelin, who has given the subject much attention, of first, two fatty matters; secondly, albumen; thirdly, osmazome, a substance first so named by Thenard, being a peculiar animal principle obtained from raw muscular fibre; fourthly, several saline ingredients; fifthly, phosphorus; sixthly, sulphur.

The following are the proportions given by Vauquelin:—

Water	80.00
White fatty matter . .	4.53
Red fatty matter . . .	0.70
Albumen	7.00
Osmazome	1.12
Phosphorus	1.50
Acids, salts, and sulphur	5.15

The above is the result of trials made on the cerebrum, or hemispheres of the brain; the human cerebellum gave the same results. In the medulla oblongata and spinal chord the same constituent principles are found, but the proportions are somewhat different; the fatty matter being here in greater abundance, and there being less albumen, osmazome, and water.

The gray substance of a calf's brain was found to contain albumen insoluble in water 10.0, an unctuous incrustable fat, osmazome, phosphate of soda, phosphate of lime, phosphate of magnesia, hydrochlorate of soda, and traces of iron 15.0 to 10.0; water 75 to 80.

The white substance of the brain, form the same animal, was found to contain more fatty matter than the gray; it presented traces of silica. The cerebellum of the calf gave the same products as the cineritious substance.

The brain of a bullock contained also phosphate of ammonia, a more solid albumen, a reddish colored fat, and a crystallisable fat. The composition of the brain of the stag was similar.

We have spoken of the medulla of the brain and spine, in accommodation to the terminology which still continues to be employed in physiological science, but it is the opinion of many, especially among the moderns, that the encephalic mass is altogether of a fibrous structure; and we have already adduced suggestions with respect to the *modus generandi* of this fibrous tissue. Mr. Bauer has made some very minute microscopic experiments on the texture of the brain; and he finds 'abundance of fibres in every part of it; indeed, it appears that the whole mass is a tissue of fibres which seem to consist entirely of an accumulation of globules, whose union is of so delicate a nature that the slightest touch, even the mere suction in water, deranges and reduces them to that mass of globules of which the brain appears to be composed when examined with less accuracy, or under less favorable circumstances.'

It remains for us now briefly to notice the principal theories which have been broached on the mode in which is manifested those various kinds of power, that are clearly connected in their full display with the integrity of either a part or the whole of the encephalic mass. We say, briefly notice, for the full discussion of these very interesting topics, and the interest of which is almost daily increasing, would be quite inconsistent with the limits we have prescribed to the present article. For more ample information we refer the reader to *PHYSIOLOGY, MEDICINE, and PHRENOLOGY*.

In order to appreciate properly the views which have been taken by different speculators on the nature of encephalic power, it will be right for the reader to revert to what has been advanced on the origin and gradual development of the sentient organisation: it would appear, as we have above intimated, that the primordial germ of both nerve and brain, is a membranous matrix, upon which is gradually deposited the material that eventually constitutes the true nervous substance; it would appear, further, that in all kinds and grades of animate existence the process from the first is of a similar nature; but

that this process stops at certain points, according to the formative energy of the animal: thus, where only percipient excitability is required, the mere ganglionic system of nervous structure is perfected; where strength and volition are about to be manifested, a more complete development of nerve is effected; while in the vertebral animals, and in the mammalia, the spinal chord becomes formed, and expands itself out into cranial brain, of a greater or less complicated formation, until the point or acme is gained, and man starts out from among other animals, allied to them in one sense, but opposed in others; since, with certain kinds of perceptions inferior vastly to some of the brute creation, he is, on the other hand, not only superior, but actually and widely different from all, in the superinduction of reflective intelligence and the endowment of moral faculties: at this point, indeed, physiology stops, and resigns the power and propriety of further research into the hands of the metaphysician, the moralist, and the theologian.

Bichat, carrying his views into the gradations and distinctions now assumed, suggested that the nervous system involves two leading points, and that the functions of the living frame are divisible into animal and organic life; the first being exercised mainly through the medium of the brain, properly so called, and its appendages; the second having to do with the ganglia of the great sympathetic nerve; (See ANATOMY, PHYSIOLOGY, and NERVE). Neither of these functions, however, is absolutely exclusive in the opinion of our physiologist; since there is a connexion of the nerves from the brain, with the sympathetic or ganglionic system; and, of course, of the latter with the former. But, in the main, the ganglionic system is supposed to influence the more organic and involuntary functions—the encephalic the voluntary and intellectual. There is this further difference, in Bichat's opinion, between the manifestations of the one and the other, that animal life has a centre and source which is the brain, while the organic system is so constructed as that each ganglion has a separate and somewhat independent power.

Thus those animated existences, which are so low in the scale of being as to be without brain, which have only ganglia, possess in a manner no totality of existence, no uniting bond of the whole system; and it is further urged in favor of this division between organic and animal vitality, that in proportion to the possession of intellect is the development of the brain, and diminution of the ganglionic order of nerves. It has even been said, that ideots among the human species, are found with the visceral ganglia of the sympathetic nerve more than usually conspicuous.

Dr. Wilson Philip has propounded principles somewhat similar to those of Bichat. Dr. Philip, however, does not so decidedly separate the two systems; but states the difference between voluntary and involuntary power to consist in this, that the former is transmitted immediately from a particular portion of the brain to the moving organ, while the latter originates from every part of the encephalon, and that here the nervous influence traverses the great chain of the sympathetic ganglions.

Le Gallois, too, differs from Bichat, in respect to the nature and extent of influence exercised by the brain over organic life. So far from the sympathetic system being independent of the brain and spinal chord, he conceives that it receives from them the most powerful influence. Respiration, however, with its dependent functions, does not, according to Le Gallois, proceed from the brain, but from a circumscribed part of the medulla oblongata, near the occipital opening, towards the origin of the eighth pair of nerves.

From the experiments of Flourens, it has been inferred, that the sensation of sight and sound, or the power of calling them into action, resides in the cerebral lobes, and that these are the organs and parts for the concentration and distinctness of all other sensations. Volition too is conceived to have especial connexion with these parts of the encephalon, as far as the act of the will is excited by memory, or regulated by judgment. For loco motion, the integrity of the cerebellum is requisite; for, let the brain remain, the animal will see, hear, and indicate volition; but, if the cerebellum be removed, he will never find the balance necessary for loco motion; the cerebellum seeming therefore to regulate these movements; and while it does so, the spinal chord combines the muscular contraction, so as to be the agent of producing motion in the joints. The mandates of the will are supposed to be immediately issued from the very top of the medulla oblongata, at the point where the tubercula quadrigemina joins it. It is concluded upon the whole, that the cerebral mass contains distinct organs for the *senses*, for the *sensations*, and for the *movements*; but that the power of feeling, willing, and perceiving, constitute but *one* faculty, residing but in *one* organ.

We have now to notice a theory which goes upon the presumption of a plurality of faculties and organs, and which conceives the cerebral lobes to be the residence as it were of separate and distinct faculties. As the inferences to which we have hitherto referred, have been deduced principally from experiments on animals, so the conclusions of those individuals, to whose speculations we now allude, are derived, according to their own showing, from anatomical and physiological investigation on the peculiarities and mode of increment in the cerebral organisation; and from actual observation on the form both of the brain and the cranium. The division of the nervous system in this theory is in some measure similar to that proposed by Bichat, as it divides the whole mass into two great classes, viz., vegetable or organic, and phrenic or mental; and Dr. Spurzheim, who is one of the founders of the theory, and who has published a detailed exposition of it, expressly states, that he considers the nerves of mere organic existence, to be independent on those of phrenic life; but that they communicate with each other so as to constitute a totality of existence in all classes of beings in which these two orders of nervous masses are simultaneously existent.

But the great peculiarity of the system of Gall and Spurzheim is this; that it assumes in the gradual evolution of the cerebral organisation a

termination, not into an organ of perception, volition, judgment, &c. merely, but into a compound of many distinct apparatuses, 'each of which has particular functions, which being taken together constitute phrenic life;' that this encephalic succession and increment, being synchronous with the process of ossification in the cranium, the form and magnitude of the latter is greatly regulated by the directions into which the formative power of the individual directs the development of the cerebral masses; and that consequently the shape and size of the head will indicate, not only the general measure of mental faculty with which such individual is endowed; but that its forms and varieties in infancy may be taken as indices of the particular faculties, and functions, and powers, and propensities, about to be manifested. A double claim is thus preferred by the physiologists in question; they contend that their physiological tenets are substantiated by cranioscopic investigation; and that he who runs may read the truth of their positions.

It was not to be expected in the nature of things, that doctrines like these, which interfere materially with the notions hitherto generally received on the nature of intellectual power, should be given to the world without exciting much and varied opposition; and accordingly we have found that the assumptions of Gall and Spurzheim have been assailed in every possible shape both of serious argument and contemptuous ridicule; but it is the duty of encyclopædists at least, to state the pros and cons of disputed points, uninfluenced by *a priori* feelings: and to this duty, on this point, we should now proceed, but that the investigation would lead us far beyond our proposed limits. We refer, then, to the word PHRENOLOGY for the amplification and discussion of the organological tenets, using the freedom, however, of objecting to the term, inasmuch as it seems both too presumptive and too restrictive—too presumptive in implying or taking for granted that this is the true science of mind; and too restrictive, because the phrenic or mental part of the argument does not comprehend its whole scope and bearing. The system of Gall and Spurzheim, when taken in its full stretch of latitude, constitutes in some sort a new system of neurology in general; and it is partly, indeed, on this account, that we think the present not the proper place for discussing its merits.

We conclude by saying, that, whatever truth may be found in any of the views above adverted to, none of them have given us 'the whole truth.' There is still much that is mysterious, and at present totally inexplicable, in the complicated organisation of the encephalon and its appendages; and, indeed, some of these peculiarities, as we shall afterwards have occasion to show, are not only unexplained by, but are seemingly at variance with, the inferences that have been deduced by the experimenter, and the doctrines that have been propounded by the systematist.

BRAINTREE, a market town of Essex, near Bocking, called Rains, in Doomsday book. It carries on a manufacture of baize and straw plaiting. It lies eleven miles north-east of Chelmsford, and forty north-east of London.

BRAINTREE, a town of the United States of America, in Massachusetts. Great quantities of granite stones are sent to Boston from this town for sale. It stands at the bottom of a shallow bay, eight miles east by south from Boston.

BRAIT', *adj.* Fr. *brute*; Lat. *rudus*; unpollished; rude.

BRAITHWAITE (John), an enterprising mechanic, who employed the diving-bell most successfully in recovering shipwrecked property. In 1783 he descended into the *Royal George*, sunk off Spithead, and brought up the sheet-anchor and many of her guns. From the *Hartwell* East Indiaman, lost near one of the Cape de Verd islands, he obtained, in 1788, dollars to the value of £38,000, 7000 pigs of lead, and 360 boxes of tin; and from the wreck of the *Abergavenny* East Indiaman, off the isle of Portland, property estimated at £105,000. He died in 1818.

BRAKE. Swed. *brack*; Teut. *breche*; Belgic, *broecke*; Ang.-Sax. *breac*. That which crushes, as a machine to crush flax; that which restrains, holds in, curbs or tames; like a bit for young horses. It is used for the handle of a pump. Lat. *brachium*, because it is an instrument to force or compel.

In her right hand (which to and fro did shake),
She bore a scourge, with many a knotted string,
And in her left, a snaffle bit, or *brake*,
Bebost with gold, and many a ginging ring.

Gascoigne. The Steel Glass.

Like as the *brake* within the rider's hand
Doth strain the horse, nye wood with grief of paine,
Not used before to come in such a band.

Earl of Surrey.

He is fallen into some *brake*, some wench has tied him by the legs. *Shirley's Opportunity.*

He thought it sufficient to correct the multitude with sharp words, and *brake* out into this choleric speech. *Knolles.*

BRAKE, *1* Dan. *bregne*; Scot. *bracken*; Ar-BRA'KY. *2* moric, *bruhaug*; Swed. *bracka*, signifies to burn or heat; for which purpose fern is still used. Dan. *brak*; Belgic, *bruig*, Swed. *brack*, from the verb to break. A thicket of brambles or fern; brushwood. Eraky, is thorny, prickly, rough.

The buck in *brake* his winter coat he flinges.

Earl of Surrey.

Of all the seeds, that in my youth was sown,
Was none but *brakes* and brambles to be mown.

Spenser's Shepheard's Calendar.

If I'm traduced by tongues, which neither know
My faculties nor person; let me say
'Tis but the fate of place, and the rough *brake*
That virtue must go through. *Shakspeare.*

Redeem arts from their rough and *braky* seats,
where they lie hid and overgrown with thorns, to a pure open light, where they may take the eye, and may be taken by the hand. *Ben Jonson.*

But further way found none, so thick entwined,
As one continued *brake*, the undergrowth
Of shrubs and tangling bushes had perplexed
All path of man or beast that passed that way.

Milton.

In every bush and *brake*, where hap may find
The serpent sleeping. *Id.*

Full little thought of him the gentle knight,
Who, flying death, had there concealed his flight;
In *brakes* and brambles hid, and shunning mortal
sight. *Dryden's Fables.*

A dog of this town used daily to fetch meat, and to carry the same unto a blind mastiff, that lay in a *brake* without the town. *Curew.*

See how they thread
The *brakes* and up yon furrow drive along.

Somerville's Chase.

Thus, at the shut of even, the weary bird
Leaves the wide air, and in some lonely *brake*
Covers down and dozes till the dawn of day,
Then claps her well-fledged wings and bears away.
Blair's Grave.

BRAMA. See BRAHMA.

BRAMA, in ichthyology, the trivial name of a species of cyprinus

BRAMAH (Joseph), a most superior and ingenious mechanic, was born, in 1749, at Stainborough, in Yorkshire. He was employed in early life in agriculture, and received a very common education; but a lameness in one of his legs compelling him to relinquish that pursuit, he was bound apprentice to a carpenter. Previously to this he had made himself two violincellos of tolerable execution, and a violin out of a solid block of wood. On the expiration of his apprenticeship he was employed in London as a cabinet-maker, and soon enabled to set up for himself; but the improvements which he made in the construction of water-closets, proved the foundation of his fortune. He afterwards undertook the manufacture of pumps and pipes, on new principles; but obtained still more decided notice by the fabrication of locks, which yet bear his name. He next directed his attention to hydraulic machines, and, by varying the form of the piston and cylinder, produced a rotative motion, for which he procured a patent. His next object was the application of the hydrostatic paradox, or the uniform pressure of fluids in every direction, as a mechanical agent. For this he took out a patent in 1796, and tore up 300 trees in Holt forest by it without any other means. In 1807 the bank of England engaged Mr. Bramah to construct a machine for more expeditiously printing the numbers and date lines on their notes, an object which he accomplished in a month, and his practice has ever since been acted upon. See NOTES, BANK. For some time prior to his death, he was employed in the erection of machinery on the side of the Thames, for sawing stones and deals, upon the principle of his hydro-mechanical invention. He was taken off by a severe cold, occasioned by over-exertion, in 1815. He published 1. A Dissertation on the Construction of Locks, 8vo; 2. Letter on the Subject of the Cause of Boulton and Watt against Hornblower and Maberley, for an Infringement of a Patent.

BRAMBANAN, or PRAMBANAN, a village of Java, at the base of a range of mountains in the district of Mataram, celebrated for its many remains of Hindoo antiquities. Temples, images, and inscriptions, are here scattered over a surface extending several miles each way. The most remarkable of these is called the Thousand Temples, and consists of a square group of buildings, measuring, each side, about 250 paces. In the centre formerly stood one large temple, surrounded by smaller ones. Various other structures, with these, consist of hewn basalt or trap, without mortar, the stones being retained in their places by projecting grooves. They were pro-

bably built about the latter end of the thirteenth century, by the Hindoos of the Coromandel Coast. Those who have examined these and similar structures on that island, consider them to have been dedicated to the worship of Buddha, a reformation of the bloodier rites of Ralahadema and Durga. See BUDDHA.

BRAMBAS, a name given by the natives of Guinea, and some other parts of Africa, to a peculiar species of lemon tree. The leaves are of a deep green, and very fragrant when rubbed between the hands. The fruit is very small, and has a remarkably thin skin. *Phil. Trans.* No. 108.

BRAMBER, a borough town, or rather village, in the county of Sussex, giving its name to the rape in which it is situated. It adjoins the borough of Steyning. A small stream flows near the town, and the ruins of a strong and extensive castle are still perceptible.

BRAMBLE, } *Goth. bramber*; *Swed.*
BRAM'LED, } *brombar*; *Teut. brom-*
BRAM'BLEBERRIES. } *beer*; *Ang.-Sax. bram-*
bel; brier berry; *Teut. bram*, a prickle. The blackberry bush.

Forth was I ledde, not as I wont afore,
When choise I had to choose my wandering way,
But whether luck and love's unbridled lore
Would lead me forth on Fancies bitte to play:
'The bush my bed, the *bramble* was my bowre,
'The woods can wnesse many a wofull stowre.'

Spenser's Shepheard's Calendar.

The *bramble* bush, where hyrdes of every kinde
To the waters' fall their tunes attemper right. *Spenser.*

There is a man haunts the forest, that abuses our
young plants with carving Rosalind on their barks;
hangs odes upon hawthorns, and elegies on *brambles*;
all, forsooth, deifying the name of Rosalind.

Shakespeare.

Content with food which nature freely bred,
On wildings and on strawberries they fed:
Cornels and *brambleberries* gave the rest,
And falling acorns furnished out a feast. *Dryden.*

Thy younglings, Cuddy, are but just awake,
No thrushes shrill the *bramble* bush forsake. *Gay.*

The flowering thorn, self-taught to wind,
The hazel's stubborn stem entwined,
And *bramble* twigs were wreathed around,
And rough furze crept along the ground. *Beattie.*

BRAMBLE-NET, or HALLIER, is a net for catching birds of several sizes: the great meshes must be four inches square; those of the least size are three inches square, and those of the biggest five. In the depth they should not be above three or four inches; but in length they may be enlarged at pleasure. The shortest are eighteen feet long.

BRAMER (Leonard), history painter, born at Delft, in 1598, learned painting under Rembrandt, and imitated the manner of his master in small. In 1614 he went to Rome for improvement, but could never divest himself of the Flemish goût. Yet he had a fine taste for design; his expression is generally good, and in some of his compositions truly noble. His coloring is very peculiar in the tints, being remarkably thin in many parts, so as barely to cover the pannel; yet, by his skilful management of the chiaro-scuro, it appears bright, bold, and full of lustre; particularly in the vases, which have a rich and fine relief.

He had accustomed himself to paint with a very thin body of color, to give his pictures a greater transparence. His works are rarely to be met with out of Italy, where he painted most; but they draw considerable prices, when entire. Three of his most capital pictures are, the Raising of Lazarus, the Denial of St. Peter; both preserved at Rome; and a small picture on copper, representing the story of Pyramus and Thisbe.

BRAMHALL (Dr. John), archbishop of Armagh, was born of an ancient family at Pon-tefract, about A. D. 1593. He was invited over to Ireland by the lord-deputy Wentworth; and soon after obtained the archdeaconry of Meath. In 1634 he was made bishop of Londonderry, which see he improved very much; and obtained several acts to be passed for abolishing fee farms, recovering impropriations, &c. by which he regained to the church £30,000 or £40,000 a year. In the convocation he prevailed upon the church of Ireland to unite with that of England, by adopting the thirty-nine articles; but could only prevail on them to accept of some of the canons. Articles of treason were exhibited against him in the Irish parliament; and at the treaty of Uxbridge, in 1644, the English parliament made it a preliminary article, that bishop Bramhall, with archbishop Laud, &c. should be excepted from the general pardon. He went abroad; but, on the Restoration, was appointed archbishop of Armagh, primate of Ireland, &c. and was chosen speaker of the Irish house of Lords. He died in 1663; and was the author of several works, which have been collected in one volume, folio.

BRAMIA, in botany; class didynamia; order angiospermia. Their generic characters are, CAL. five-leaved; STAM. four, two long; PIST. style filiform; STIG. simple; PERICARP. capsule conical, one-celled; SEEDS, numerous. Species, only one. A native of the East Indies.

BRAMICIDE, the crime of killing a Brahmin, reputed, in the East Indies, one of the five most heinous sins.

BRAMINS, see BRAHMINS.

BRAMPOUR, or BURHAMPORE. See BURHAMPORE.

BRAMPTON, a market town of Cumberland, nine miles north-east from Carlisle, and 311 north from London. It is a very ancient town, and was formerly a Roman station of considerable note in the second and third centuries. A ruined fortification is near it, which Camden thinks is on the site of the ancient Bremetunacum. It stands on the Irthing, and is still the capital of the barony of Gillsland, belonging to the earl of Carlisle; the town courts are held here twice a-year. Two miles distant is Naworth castle, the seat of the earls of Carlisle, built in the reign of Henry III. It has a good market on Tuesday, and two fairs, on the second Wednesday after Whitsunday, and the second Wednesday in September, noted for the sale of black cattle and sheep.

BRAN', } Fr. *bran*; Ital. *brano*; Armoric
BRAN'NY. } and Welsh, *brann*. Somner thinks it is from the Ang.-Sax. *brun*, brown. Thomson intimates that it is from *bray*, to pound, to grind. It signifies the husks of corn when ground.

But I ne cannot bould it to the bren.

Chaucer's *Canterbury Tales*.

From me do back receive the flower of all,

And leave me but the bran.

Shakspeare.

The citizens were driven to great distress for want of victuals; bread they made of the coarsest *bran*, moulded in cloths; for otherwise it would not cleave together.

Hayward.

Then water him, and drinking what he can,

Encourage him to thirst again with *bran*.

Dryden.

BRAN contains a portion of the farinaceous matter of wheat. It is less glutinous than the finer flour, and is supposed to have a detergent quality. Infusions of bran are employed with this intention externally, and sometimes likewise taken inwardly. Among the ancients, bran was used as an erotic. Bran boiled, purges scurf, dandriff, and cleanses the hands in lieu of soap. The dyers reckon it among the not-coloring drugs; and use it for making what they call the sour waters, with which they prepare their several dyes. Bran is also used as a medicine for horses.

BRANCAS LAURAGUAIS (duke de), member of the Academy of Sciences at Paris, was distinguished for his skill in chemistry, and became the associate of Lavoisier, Berthollet, Chaptal, &c. We owe to this nobleman the discovery of the composition of the diamond, and some very important improvements in the manufacture of porcelain. He died in October 1824, aged ninety-one.

BRANCH', v. & n.

BRANCH'ER,

BRANCH'ING,

BRANCH'LESS,

BRANCH'Y.

Fr. *branche*; Armoric,

brank; Gr. *βραχιον*; Lat.

brachium. From *ranken*,

reken (Ang.-Sax. *ræ-*

can, *geræcan*) to extend,

to reach. From the German, *ragen*, says Wachter, to project. To branch is to extend; to spread out, as from the trunk of a tree; to separate or diverge. Branch is a limb of a tree; an arm of the sea; the adjunct of a subject; that which springs out of it; either a collateral or a constituent part of it; any member or part of the whole; any distinct article; any section or subdivision.

In which were oaks great, streight as a line,

Under the which the gras so freshe of hew

Was newly sprong; and an eight fote, or nine,

Every tre well fro his fellow grew,

With *branches* brode, laden with leves new

That sprongen out agen the sonnè shene,—

Some very rede, and some a glad light grene.

Chaucer. *The Flourer and the Leafe*.

Whence is it, that the floweret of the field doth fade,

And lyeth buried long in winter's bale;

Yet soone as spring his mantle hath displayde,

It flowereth fresh as it would never faile.

But thing of earth that is of most availle,

As vertue's *branch* and beantie's bud,

Reliven not for any good.

O heavie herse!

The *branch* once dead, the bud eke needes must quaille.

O careful verse! Spenser's *Shepherd's Calendar*.

They were trained together in their childhoods, and there rooted betwixt them such an affection, which cannot choose but *branch* now.

Shakspeare.

Why grow the *branches*, when the root is gone?

Why wither not the leaves that want their sap? *Id.*

If I lose mine honour,

I lose myself; better I were not your's,

Than yours so *branchless*.

Id

Great Anthony! Spain's well beseeching pride,
That mighty *branch* of emperours and kings! *Crashaw.*

His blood, which disperseth itself by the *branches*
of veins, may be resembled to waters carried by brooks.

Raleigh.

If, from a main river, any *branch* be separated and
divided, then, where that *branch* doth first bound itself
with new banks, there is that part of the river, where
the *branch* forsaketh the main stream, called the head
of the river. *Id.*

The swift stag from under ground
Bore up his *branching* head. *Milton.*

In robe of lily white she was arrayed,
That from her shoulder to her heel down raught,
The train whereof loose far behind her strayed,
*Branch*ed with gold and pearl, most richly wrought.

Spenser.

The spirits of things animate are all continued
within themselves, and are *branch*ed into canals, as
blood is; and the spirits have not only *branches*, but
certain cells or seats, where the principal spirits do
reside. *Bacon.*

Straight as a line in beauteous order stood
Of oaks unshorn a venerable wood;
Fresh was the grass beneath, and every tree
At distance planted, in a due degree,
Their *branching* arms in air, with equal space,
Stretched to their neighbours with a long embrace.

Dryden.

In the several *branches* of justice and charity, com-
prehended in those general rules, of loving our neigh-
bour as ourselves, and of doing to others as we would
have them do to us, there is nothing but what is most
fit and reasonable. *Tillotson.*

The Alps at the one end, and the long range of
Apennines that passes through the body of it, *branch*
out on all sides, into several different divisions.

ddison.

What carriage can bear away all the various, rude,
and unwieldy loppings of a *branchy* tree at once?

Watts.

If their child be not such a speedy spreader and
brancher, like the vine, yet he may yield, with a little
longer expectation, as useful, and more sober, fruit
than the other. *Wotton.*

And all in sight doth rise a birchen tree,
Which learning near her little dome did strow,
Whilom a twig of small regard to see,
Tho' now so wide its waving *branches* flow.

Shenstone's School-Mistress.

Gray-haired with anguish like these blasted pines,
Wrecks of a single winter, barkless, *branchless*,
A blighted trunk upon a cursed root.

Byron's Manfred.

BRANCH, in botany, an arm of a tree, or a part
which, sprouting out from the trunk, helps to
form the head or crown thereof. Branches do
not spring out of the mere surface of the trunk,
but are deeply rooted therein, so as not only to
penetrate the cortical, but also the woody sub-
stance, and even the pith. The constituent parts
therefore of a branch are the same as of the trunk,
viz. skin, bark, wood, and pith. See BOTANY.

BRANCHIÆ, in medicine, glandular tumors
in the fauces, secreting saliva, resembling two
almonds.

BRANCHERY, in the anatomy of vegetables,
the vascular parts of divers fruits, as apples
pears, plumbs, and berries.

BRANCHIÆ, *βραγχία*; in the anatomy of
fishes, the gills, or parts corresponding to the

lungs of land animals. All fishes, except the
cetaceous ones, and the pteromyzum, which have
lungs, are furnished with these organs of respi-
ration. See ZOOTOMY.

BRANCHIDÆ, in antiquity, priests of the
temple of Apollo, at Didymus in Ionia. They
opened the temple to Xerxes, who plundered it
of its riches; after which, thinking themselves
not safe in Greece, they fled to Sogdiana, on the
other side of the Caspian Sea, where they built a
city. Alexander the Great having conquered
Darius king of Persia, and being informed of
their treachery, put them all to the sword, and
razed their city; thus punishing the impiety of
the fathers on their posterity.

BRANCHIONUS, in zoology a genus of
vermes; order infusoria. The body is contrac-
tile, and covered with a shell. These animals
inhabit the stagnant water, where, from their
minuteness, they appear to the naked eye like
white specks.

BRANCHIOSTEGI, in ichthyology, one of
the general classes of fishes; the characters of
which are, that the rays of the fins are of a bony
substance, and no bones or ossicula at the *branchiæ*. This class includes the following genera:
mormyrus, ostracion, tetrodon; syngnathus,
pegasus; centriscus, balistes, cyclopterus, and
lophius.

BRAND (John), an English antiquary of
some eminence, was born at Newcastle-on-Tyne
in 1743, of mean parentage. After serving an
apprenticeship to a shoemaker, he obtained,
however, the means of prosecuting his studies
at Oxford; entered into orders, and was pre-
sented to the curacy of Cramlington. He con-
tinued here till 1784, when the duke of Northum-
berland gave him the rectory of St. Mary at Hill,
London; and he was chosen the same year se-
cretary of the Antiquarian Society. He died in
1806 at Somerset-house. His publications are,
Observations on Popular Antiquities, including
Bourne's *Antiquitates Vulgares*, with copious
Additions, 1777, an enlarged edition of which
curious work was published after his death, in
2 vols. 4to.; and *The History and Antiquities of
the Town and County of Newcastle*, 1789, 2 vols.
4to. A curious and valuable library of his, of
which there is a catalogue published in two parts,
was sold by auction in 1807 and 1808.

BRAND', v., & n. } Goth. Swed. Ang.-
BRAND-NEW. } Sax. Dan. Teut. Belgic,
brand; from Goth. *brann*. Brand-new, from Goth.
bruna. All from burn, which see. A thunder-
bolt, a burning coal, lighted stick, mark of burn-
ing, a burnished sword.—Met. Infamy.

Eftsoones he perced through his chaufed chest
With thrilling point of deadly yron *brand*,
And launcht his lordly hart: with death opprest
He roared aloud, whiles life forsooke his stubborn
brest. *Spenser.*

Then the aire still flitting, but yet firmly bounded
On everie side with pyles of flaming *brands*,
Never consumed nor quencht with mortal *brands*. *Id.*

Have I caught thee?

He that parts us shall bring a *brand* from heaven,
And fire us hence. *Shakspeare.*

Have I lived thus long a wife, a true one,
Never yet *br*inded with suspicion? *Id.*

The king was after *branded*, by Perkin's proclamation, for an execrable breaker of the rights of holy church. *Bacon.*

Clerks convict should be burned in the hand, both because they might taste of some corporal punishment, and that they might carry a *brand* of infamy. *Id.*

They looking back, all the eastern side beheld
Of paradise, so late their happy seat,
Waved over by that flaming *brand*; the gate
With dreadful faces thronged, and fiery arms. *Milton.*

My loss of honour's great enough,
Thou needst not *brand* it with a scoff. *Butler's Hudibras.*

Where did his wit on learning fix a *brand*,
And rail at arts he did not understand? *Dryden.*

Brand not their actions with so foul a name;
Pity, at least, what we are forced to blame. *Id.*

The sire omnipotent prepares the *brand*,
By Vulcan wrought, and arms his potent hand. *Graville.*

Our Punick faith
Is infamous, and *branded* to a proverb. *Addison.*

The memory of Licinius was *branded* with infamy, his statues thrown down, and by a hasty edict, of such mischievous tendency that it was almost immediately corrected, all his laws, and all the judicial proceedings of his reign, were at once abolished. *Gibbon.*

I'm naked, famished, faint, my *brand* is broken.
Maturin's Bertram.

And now the matadores around him play,
Shake the red cloak and poise the ready *brand*. *Byron.*

BRANDARIS, in conchology, a species of *murex*, common in the Mediterranean, somewhat ovate, and surrounded with spines; beak moderately subulate and straight.

BRANDENBURG, MARK, or MARQUISATE OF, an important State in Prussia, and may be considered the foundation of the monarchy, as it is at present constituted. It is bounded on the north by Mecklenburg and Pomerania, a part of Saxony, Anhalt and Magdeburg on the south, on the east by the grand duchy of Posen, and on the west by Brunswick and Hanover. Its extent from east to west is computed at 200 miles; and from south to north upwards of 100. It is computed to contain 17,198 English square miles, and its population about a million and a quarter. It is divided into the Electoral and the New Mark; to each of which several smaller territories have at several times been annexed, arising principally by the articles of peace at the conclusion of various wars with neighbouring or more distant nations.

The Suevi were the aboriginal inhabitants of Brandenburg, and were succeeded by the Slavonians, with whom Charlemagne and his successors were frequently at war. Henry I. having subdued them in the early part of the tenth century, introduced Christianity here, we are told, and erected the Margraviate. It was conferred on a Saxon count, with the title of Lord Warden of the Marshes or Borders, and first became hereditary in the family of Albert, count of Ascania, about the year 1100. Charles IV. on the extinction of this race, assigned the electorate to his second son Sigismund, who ascended the imperial throne of Germany in 1415, and sold it

to Frederic, Burgrave of Nuremberg, the ancestor of the present reigning family. Minor divisions of the territory afterwards took place among his grandsons, until Frederic William, surnamed the Great, compelled the king of Poland, in 1656, to acknowledge Prussia independent; and made large accessions to the ancient domains of his house. It now became identified with the history of Prussia. A part of this ancient province, however, was once more divided from the rest, when the Old Mark was ceded to Buonaparte in 1807, and incorporated with the department of the Elbe, in the kingdom of Westphalia, created for his brother Jerome. It was of course restored at the general peace of 1814.

The principal rivers of Brandenburg are the Elbe and the Oder; in addition to which there are several smaller,—the Havel, the Spree, the Wartha, &c., with several canals to unite their streams. Few countries are better supplied with water, both for the purposes of irrigation, and the transfer of goods: conveniences which are extended over the whole surface of this extensive country.

There are many mountains and sandy tracts, but it is on the whole a productive country in corn, flax, hemp, hops, and tobacco; it is also rich in wood, wool, and iron. Buck wheat and rye are the chief crops. The forests furnish the important article of fuel, both for domestic use, and for the glass and iron works; together with large quantities of timber for house and ship building. The principal minerals are, iron ore, a useful kind of clay, porcelain earth, alum, salt-petre, and amber. The culture of silk is carried on with success, and is in a state of increase. The rearing of cattle and sheep forms an important branch of employment, improved breeds of both having been lately introduced. The horses are small; but the black cattle are excellent in some districts.

The manufactures are those of cotton, linen, woollen, salt, leather, porcelain, and iron; jewellery, and various metallic articles; paper and hats. The chief towns are Berlin, Potsdam, Brandenburg, Frankfurt on the Oder, Stendal, Prenzlau, Custring, and Perleberg. The inhabitants are principally Lutherans, the remainder Calvinists. Of the latter number are the French settlers, who fled hither in great numbers after the revocation of the edict of Nantes, and by their skill and industry greatly promoted the manufactures of the country. The number of the families of these colonists, about the middle of the last century, was in the Electoral Mark 7500, and in the New Mark 2600. The arts and sciences are more cultivated here than in any other part of the monarchy. The total population of Brandenburg amounted, in 1783, to 987,224 without the military, and, 1801, including the military, to 1,100,000.

BRANDENBURG, the capital of the preceding electorate or province, is situated in the Middle Mark, on the banks of the river Havel, which divides it into the old and new towns. The banks of the river are lined with houses built upon piles. The town contains one broad hand-somestreet, a cathedral, and seven other churches, with 12,000 or 13,000 inhabitants. Frederick II. demolished the castle, and carried away all that

was characteristic of the former residence of his family, to Potsdam. Here are manufactories of linen, woollen, and cotton, and several noted flour mills, which supply Berlin with flour. It stands about thirty miles west of that city. There are also about 300 acres of vineyards in this neighbourhood.

BRANDENBURG, CONFESSION OF. A formulary or confession of faith, drawn up in the city of Brandenburg, by order of the elector, with a view to reconcile the tenets of Luther with those of Calvin, and to put an end to the disputes occasioned by the confession of Augsburg.

BRANDING, in old law, in the face or hand, a punishment inflicted by law on various offences, by burning with a hot iron, after the offender has been once admitted to benefit of clergy.

BRANDISH, v. & n. Span, *blandir*; Ital. *brandire*; Fr. *brandir*, *brandiller*. See *brand*. To flourish or wave like a sword. Junius thinks that brandish was first applied to the motion of a brand; and then generally to denote, to wave; to shake; to flourish; met to make a show. Brander, to shine or glisten with a vibrating trembling, or soft motion.—*Cotgrave*, as quoted in the *Ency. Met.*

Brave Macbeth,
Disdaining fortune, with his *brandished* steel,
Like valour's minion, carved out his passage.
Shakspeare.

She *brandished* o'er her head his sword,
And vowed they should not break her word,
She had given him quarter, and her blood
Or theirs should make that quarter good;
For she was bound by law of arms
To see him safe from further harms.

Butler's Hudibras.

He said, and *brandishing* at once his blade,
With eager pace pursued the flaming shade.

Dryden.

He who shall employ all the force of his reason
only in *brandishing* of syllogisms, will discover very little.

Locke.

Let me march their leader, not their prince,
And at the head of your renowned Cydonians
Brandish this sword. *Smith.*

Two shining spears are *brandished* in his hands,
Thus armed he animates his drooping bands—
Revives their ardour, turns their steps from flight,
And wakes anew the dying flames of fight.

Pope's Iliad.

BRAND'LING, a worm so named from its *brindled* color.

The dew-worm, which some also call the lob-worm, and the *brandling*, are the chief. *Walton.*

BRANDOLINUS (Aurelius), surnamed Lip-pus, from his being blear-eyed, was born at Florence in the fifteenth century, and esteemed a great orator, poet, and musician. Matthias Corvinus, king of Hungary, invited him to teach oratory in his dominions, which he did many years at Buda and Strigonia, with great success. On his return to Florence he took orders, and preached to the most crowded audiences. He died at Rome of the plague, in 1498. He wrote several works which were esteemed, particularly, 1. A Commentary on St. Paul's Epistles. 2. A Treatise de Lege. 3. Two Books of Christian Paradoxes. 4. Three books De Ratione Scri-

bendi. 5. A Dialogue de humanæ vitæ conditione, et tollenda corporum aegritudine; dedicated to king Matthias. And 6. The Scripture Histories in Heroic Verse.

BRANDON, a market town of Suffolk, five miles north-west from Thetford, and seventy-eight N. N. E. from London. It is pleasantly situate on the Little Ouse, and has a good harbour. The river, over which there is a bridge, is navigable from Lynn to Thetford; and, a mile below, is a ferry for conveying goods to and from the Isle of Ely. The Fens commence near this town, which formerly gave title to the dukes of Suffolk, and now gives the title of duke to the family of Hamilton, in Scotland. The church is handsome, and the town has a considerable trade in malt, corn, coals, timber, iron, bricks, gun-flints, &c. In the neighbourhood are extensive rabbit-warrens.

BRAND SUNDAY, Dimanche des Brandons, in French ecclesiastical writers, denotes the first Sunday in Lent; so called on account of an ancient practice in the Lyonnais, where the peasants, on the night of this day, walked about their orchards, gardens, &c. with lighted torches, or fire-brands in their hands; in which plight they visited every tree, and, addressing themselves to them one after another, threatened that if they did not bear fruit well the ensuing season, they should be cut down to the ground and burnt. This is evidently a relict of Paganism; the same custom having been practised by the ancient Romans in February.

BRANDT (Gerard), a learned protestant divine, born at Amsterdam in 1626, and successively minister in several places of the Netherlands. He wrote several works, which are much esteemed; particularly, The History of the Reformation of the Netherlands, 4 vols. 4to; and the Life of Admiral Ruyter; he died at Rotterdam in 1685.

BRANDY. Teut. *brande wein*; Dut. *brandewyn*; Swedish *brach-win*; Ger. *brand-wein*. Brand burned, and wine, corrupted into y, in English, says the *Ency. Met.* literally burnt wine; a spirit distilled from wine.

Buy any *brand-wine*, buy any *brand-wine*.

Beaumont and Fletcher.

The Dutch their *wine*, and all their *brandy* lose.

Waller.

Restored the fainting high and mighty

With *brandy-wine* and aqua-vitæ:

And made them stoutly overcome

With bacrack, hockamore, and mum.

Butler's Hudibras.

If your master lodgeth at inns, every dram of *brandy* extraordinary that you drink, raiseth his character.

Swift's Footman.

It has been a common saying, A hair of the same dog; and thought that *brandy-wine* is a common relief to such.

Wiseman.

BRANDY is extracted from other liquors, as well as wine, by distillation. It has even been distilled with considerable success of late, from potatoes. See *DISTILLATION*. French brandy is esteemed the best in Europe. It is made wherever wine is made; and the strong heavy wines are preferred for the still. The best French brandies exported, are those of Bour-

deaux, Rochelle, Cogniac, Charenton, Nantz, the isle of Rhé, Orleans, and the ci-devant provinces of Poitou, Touraine, Anjou, Burgundy, and Champagne. See also *ALCOHOL*.

BRANDYWINE, a township of Chester county, Pennsylvania, United States.

BRANDYWINE CREEK, a creek of North America, which falls into Christiana creek from the northward, at Wilmington, in the state of Delaware, about twenty-five miles from its north and north-west sources in Chester county, Pennsylvania. This creek is famous for a battle, fought on the 11th of September, 1777, between the British and the Americans, in which the latter were defeated. Philadelphia was taken possession of in consequence, by general Howe, on the 26th.

BRANFORD, a town of the United States, in New-Haven county, Connecticut; seated on a small stream that runs into Long-island sound. It is about eight miles south-east by east from New-Haven, and 191 from Philadelphia.

BRAN'GLE, } From *beurangle*. *Wran-*
BRAN'GLER, } gle was originally *wrangle*,
BRAN'GLING, } a diminutive of *wrong*, the
BRAN'GLEMENT. } past participle of *wring*,
to twist, to distort, to misrepresent. *Bewrangle*, *berangle*, *brangle*, presents a common course of corruption.—Ency. Met. To brangle is to squabble. A brangler is one prone to litigious contests, to brawls and quarrels.

This is '*durus sermo*,' says some *brangling* parishioner, that fetches up his poor minister every term for trifles. *Bp. Hall*.

When polite conversing shall be improved, company will be no longer pestered with dull story-tellers, nor *brangling* disputers. *Swift*.

The payment of tithes is subject to many frauds, *brangles*, and other difficulties, not only from papists and dissenters, but even from those who profess themselves Protestants. *Id.*

BRANK'. Armoric, *brank*, *brac*, *barac*, said anciently to have been the general Celtic name for grain. It now signifies buck wheat.

BRANK, probably from *branca*, a barbarous Latin word of the middle ages, corrupted from *brachium*, and signifies a foot or paw.

BRANK, an instrument used in Staffordshire, for correcting scolding women. It is a sort of head-piece, which opens and encloses the head, while an iron, sharp as a chissel, enters the mouth, and subdues the more dreadful weapon within. Thus harnessed, the offender is led in triumph through the streets. Dr. Plott, in his history of Staffordshire, gives a minute description and figure of the instrument, which is there called a scolding bridle; and tells us, he looks upon it 'as much to be preferred to the ducking-stool, which not only endangers the health of the party, but also gives the tongue liberty betwixt every dip; to neither of which this is at all liable.' The Dr. illustrated the margin of a copy of his own work, now in the British Museum with the following quotation from Chaucer:

But as for my daughter Julian
I would she were well bolted with a *bridle*,
That leaves her work to play the clack,
And lets her wheel stand idle.

For it serves not for she ministers.

Fariers nor furriers,

Coblers nor button makers

To descant on the Bible.

BRANKER, or **BRANCKER**, (Thomas), an eminent mathematician of the seventeenth century, was born in Devonshire, in 1636, and studied at Oxford, where he took his degree of M.A. in 1658. His skill in mathematics and chemistry recommended him to Lord Brereton, who gave him the rectory of Tilston. He was afterwards appointed master of the well-endowed school of Macclesfield; where he died in 1676, aged forty. He wrote a Latin work *De Sphærâ*; Oxford, 1662; and a translation of Rhonius's *Algebra*: London 4to. 1668.

BRANKSEA, or **BROWNSEA**, an island about three miles in circumference, in Pool harbour; and situate among strong currents. Queen Elizabeth erected a fort here. Long. 1° 57' W., lat. 50° 41' N.

BRAN'SEL. Fr. *branler*, or *bransler*, a brawl or dance.

Bransles, ballads, virelayes, and verses vain.

Spenser.

BRANTETH WELL, a mineral spring in Dumfriesshire, which, though situated several yards deep in an extensive moss, contains a very strong sulphureous water, more powerful than that of Moffat, and used with success in scorbutic and scrophulous cases.

BRASAVOLUS (Antonius Musa), M.D. and professor of natural philosophy, at Ferrara, flourished in the middle of the sixteenth century. He wrote, 1. *Commentaries on Hippocrates' Aphorisms*: 2. *Examen omnium simplicium, quorum usus est in publicis officinis*: printed at Rome, 1536, and Lyons, 1544, 8vo. A treatise on Venereal Disease; and several other medical works. He used the form of a dialogue, between himself and the apothecary. His style is clear and simple.

BRASAVOLUS (Jerom), the son of Antonius Musa, was also a physician and medical author. He wrote, An Exposition of the first Book of Hippocrates; Ferrara, 4to, 1595: and a treatise *De officiis Medicis*.

BRASENIA, in botany, a genus of plants; class, polyandria decagynia: CAL. perianth one-leaved, six-parted: COR. none: STAM. filaments from eighteen to twenty-five, erect, attached to the receptacle, shorter than the calyx: ANTH. erect: PIST. styles erect, bent inwards towards the top: STIG. obtuse: PERICARP. oblong, the outer side flat, the inner gibbous, fleshy, one-celled, without valves: SEEDS two or three, oval.

BRASIDAS, a celebrated general of the Lacedemonians, who flourished A. A. C. 424. He defeated the Athenians by land and sea, took many places, and rendered his country formidable to all the neighbouring states. He conquered the Athenians on their attempting to surprise Amphipolis, but died of the wounds received in that battle. He is celebrated for the heroic declaration: 'Whatever the honor of the state requires, I will perform or die;' and he fulfilled his promise. Plutarch (Apothegm), records, that having caught a mouse among some

figs, he let it go after having bitten his fingers, observing to those who attended on the occasion; 'That there is no creature so contemptible as not to be able to free itself from a foe, if it exerts all the power it possesses.' Public honors were decreed to his mother for the speech uttered by her on the occasion of his death; and a monument was erected to Brasidas at the expense of the public.

BRASIER, from brass, in domestic architecture. A metal pan for burning charcoal, &c.; the Greeks and Romans having no chimneys in their apartments, they used pans, in which they placed lighted coals for the purpose of warming them. These were made of different metals, but most commonly of brass, and are, therefore, called brasiers. Caylus has published some ancient brasiers, which are supported by a tripod. A number of them were found in the ruins of Herculaneum and Pompeii, of which the greatest part have been engraved in the third volume of the *Bronzes found at Herculaneum*. In 1761 a square pan, or bronze grate, was discovered, in a temple of Herculaneum, like those used in Italy for heating the large apartments. It is as large as a middling sized table, and placed upon lion's paws. The borders are inlaid with foliage worked in copper, bronze, and silver. At the bottom was an iron grating, very thick, supported or walled up with bricks above and below, that the coals might not touch the under part of the grating, nor fall through at the bottom. This fine example was taken out in pieces. They use no other manner in Italy at present to heat the apartments, than by the means of pans, which are proportioned to the size of the rooms, and ornamented according to the opulence of the proprietors. In most palaces they are of silver: the greatest number are of copper, and the most common form is a basin, supported by a border of wood, plated with copper, which rises from three to four feet. In ancient churches they used a pan mounted on wheels to warm the priests and assistants.

BRASIL, an immense territory on the east of South America, including, with Guiana, all the Portuguese dominions in America. Though originally confined to a small line of coast south of the Amazons, it now comprehends all the country between 4° of north and 34° of south latitude, and from the 35th to the 72d degree of west longitude; being bounded on the north by Colombia, French Guiana, and the Atlantic Ocean; on the east and south-east by the Atlantic; and on the west by Peru, Colombia, and the United Provinces. The mean length of Brasil is 1800 miles, and its medium breadth, from east to west, 1700. Its greatest breadth is towards the north; on approaching the southern extremity, the ocean and the western boundary closely approximate. The area of Brasil is stated at 3,060,000 square miles, or 19,584,000,000 acres; and the whole population at not above 3,000,000, or one person for every square mile. But then it must be remembered, that by far the greater part of the country is occupied with vast deserts or impenetrable woods.

In our article **SOUTH AMERICA**, par. 125—142 inclusive, the reader will find the leading features

of this country, geographical, commercial, and political, described, with a sketch of its history since its first discovery in the fifteenth century. We shall here, therefore, add only an enlarged description of the aboriginal tribes, and some topographical particulars supplied by recent travellers.

Brasil, when first visited from the western world, was still more a desert than at present. Its vast plains were entirely covered with woods; and its subterraneous treasures known only by the grains of gold dust, occasionally washed down the rivers. A multitude of scattered tribes wandered over its wide extent, without agriculture, arts, or government, and exhibiting man in almost the rudest state of social life in which he ever has been found.

The physical constitution of the natives is represented as having been at this time robust, and their general health as excellent. Air, continual moderate exercise, and a simple diet, preserved them from most of the diseases to which Europeans were subject; and the color of their skin was not darker than that of the southern European nations. Persons with any bodily defect were rarely seen among them; their rapid migration and its consequent hardships quickly disposed of those when they did appear, and those only whose constitution was originally sound and entire, were enabled to arrive to manhood. In one respect, they are described as the rudest of all the American tribes. They had no clothing whatever, even on those parts of the body which modesty most forbids to be exposed. They also removed all hairs from their body, even those of the eye-brow and eye-lid, the women only retaining a portion of that which grows on the head. All the early efforts of Europeans could not persuade them to make use of clothes. Even those who had been taken prisoners and enslaved, if compelled by severe chastisement to put on some articles of European dress, would, as soon as they were set at liberty for the night, throw them off as a burden. Still were they very attentive to the adornment of their persons in their own way. They painted them with various colors, and often entirely covered them with ornaments of feathers, bones, and shells. The men generally painted all their bodies, except the face, black, at least for a ground color; and drew upon this layers of various ornamental stripes. Necklaces and bracelets, of bone or polished wood, hung round the shoulders and breasts of both sexes; and in war, or at their feasts, they arrayed themselves in their best. Of the two sexes, it is said the males were by far the most vain in their attire, and monopolised all the plumes. The women were treated as inferior beings, and most of the labor devolved on them. They used the same species of ornaments, when they could obtain them, as the men, and showed a great avidity for every material of which necklaces could be formed.

The whole country was at this time divided into small communities, perpetually engaged in the most ferocious warfare. Neither plunder nor increase of territory seemed to be the object of these conflicts, but a sort of implacable hatred, which nothing but the torture or destruction of

their enemies could appease; and each instance of savage cruelty was indelibly recorded in the minds of whole tribes. The love of military glory seemed to enter largely into their motives to war, but this was subordinate to the thirst of vengeance, and the desire of doing execution. To accomplish this in all its gratifying details, they avoided to meet their enemies in the field, and never courted single combats, but principally conducted their wars by surprise and ambuscade; chose the dead hour of midnight to fall upon their enemies; and sought every mode of destroying them, without exposing themselves. Still when the most formidable perils met them, they faced them with intrepidity, and endured with the greatest constancy the horrors to which these savage wars exposed them. 'When one of their expeditions was determined upon, the old men arranged the time and mode of procedure; they gave the signal for setting out, and were followed by the rest, with the most rapturous acclamations. Having laid up provision sufficient to last for a considerable time, they proceeded by the most unfrequented paths, in profound silence, till they arrived at the hostile frontiers. There they left the women, children, and all those who were unfit for service; and the chosen warriors of the nation proceeded to the scene of action. When they approached the village on which the attack was to be made, they concealed themselves more carefully than ever. Taking their station in the thickest woods, they watched the opportunity of finding the enemy completely unprepared. The time favorable for this purpose was of course the night, when the enemy were buried in sleep, and unconscious of impending danger. Notwithstanding dreadful and continually repeated examples, these nations had never adopted the obvious precaution of stationing a sentinel to warn them of an approaching enemy. The attack, therefore, proved generally successful; the inhabitants were roused from profound slumber by the yells of their destroying foe. A scene then ensued, the horrors of which no pen can describe. The victims, unprepared, unarmed, defenceless, fell unresisting into the hands of their enraged and unrelenting enemies. In vain did their cries rise to heaven; vain was all supplication; neither age nor sex afforded shelter from the utmost excesses of cruelty; and the victors exhausted themselves in inventing new forms of inhumanity; they devour in their fury portions of the mangled victims, while they reserve the survivors for a more lingering fate. The number of prisoners taken was, indeed, the criterion by which their warlike exploits were chiefly valued. The arrival of a numerous band doomed to destruction, secures them a joyful reception from that part of the community who had been left at home, and who were eagerly waiting their return. These unhappy men were reserved for a festival, the most horrible and the most disgraceful to human nature. To devour the flesh of their enemies, amid savage pomp and acclamation, was considered as the utmost height of human triumph. They did not, however, proceed immediately; nor did they, unless to a small extent, in the first frenzy of battle, feed on the bodies of enemies slain on the field. They reserved the

living captives for an august solemnity, at which the whole nation was called to assist. Previous to this awful day, the prisoner was treated with every mark of kindness and favor. His wants were liberally supplied; he was allowed to accompany them in the exercises of hunting and fishing; and the person to whom he belonged hesitated not to give him one of his own nearest relations as a wife, during the short period that he had yet to live. All this previous kindness, however, seemed to be bestowed only to render his fate, when it arrived, more dreadful. Immediately previous even to the fatal moment, several days were devoted to feasting and profuse conviviality, in which the captive was permitted to share. All his study, then, was to show the most entire indifference to his approaching fate, and the proudest defiance to the enemies among whom he was seated. He was the gayest of the company; he boasted aloud of his warlike exploits, and particularly of such as had been performed against those by whom he was surrounded. He was then fixed on a scaffold, and, by a whimsical indulgence, a number of stones were placed beside him, with which he was allowed to do all the mischief in his power. Then the person who was to execute his doom stepped forth. This office was considered as peculiarly honorable, and was assigned to the most distinguished character in the nation. This person comes in his most splendid war dress, waving with varied colored plumes, and with a large club in his hand. He then addresses the captive: 'Here am I, that have killed many of thy nation, and will kill thee;' to which the other replies, 'You do well, I have slain a multitude of your countrymen, and have devoured them; you do well, but my death will be revenged.' After this mutual defiance, the fatal blow is instantly struck; and after the necessary preparations, the inhuman feast begins, amid universal delight and triumph. The bones are carefully preserved, and are fashioned into various ornaments of necklaces, bracelets, and musical instruments. The heads are also preserved, and piled up in a corner, to be shown to every stranger, as testimonies of their prowess and success.

Their ignorance of iron left them very imperfect manufacturers of arms, yet considerable ingenuity was displayed in a sort of club called *tacape*, formed of *Brasil* wood, a species of black ebony, very weighty, round at the extremity, and sharp at the sides. It was six feet long, and about an inch thick. They had also ingenious shields made of skins, broad, flat, and round. For missile weapons, they had arrows, composed of the same kind of wood with their clubs. The strings were made of a particular species of grass, and twisted so strongly, that a traveller declares, a horse might draw by them. Their arrows were six feet long; the head and point formed of black wood, the middle of common wood, and these different pieces were very neatly joined with thin bark of trees. They had two pennons, each a foot long, neatly tied with cotton thread. These were pointed, either with bone, with hard and dried canes in the form of a lancet, or with the tail of the ray fish, which has a strongly poisonous quality. They had also a

certain species of military ensigns, and drew a warlike music from flutes made of their enemies bones!

One account of a battle in an open field has come down to us through a French traveller, who was an eye witness of it, and has given the following curious and lively description of the scene: 'Having been myself a spectator,' says M. Lery, 'I can speak with truth. Another Frenchman and I, though in danger, had we been taken or killed, of being eaten by the Margajas, had once the curiosity to accompany our savages, then about 4000 in number, in a skirmish which happened on the sea coast; and we saw these barbarians combating with such fury, that people mad or out of their senses could not do worse. First, when our people had perceived the enemy at about half a quarter of a league's distance, they took to howling in such a manner, that though it had thundered in heaven we should not have heard it. According as they approached, redoubling their cries, sounding their drums, stretching their arms, throwing out dreadful threats, and showing to each other the bones of the prisoners whom they had eaten, and even their teeth strung together hung round their neck: it was horrible to see their countenance; but it was much worse when they came near each other; for, when at the distance of two or three hundred paces, they saluted each other with great showers of arrows; and by the first discharge, you would have seen the air entirely loaded with them. Those whom they struck, tore them from their body with wonderful courage, broke them, bit them with their teeth, and failed not to make head in spite of their wounds; upon which, we must observe, that these Indians are so furious in their wars, that so long as they can stir legs or arms, they cease not to combat, without retreating or turning their backs. When they were joined in battle, you might then see them wielding, in their two hands, wooden clubs, and charging so furiously, that he who met the head of his enemy, not only threw him on the ground, but felled him as butchers do oxen. You will ask what my companion and I did during this rough skirmish? To conceal nothing, I answer, that satisfied with our first folly, which was to risk ourselves with these barbarians, and keeping in the rear, we were only occupied in viewing the blows. But though I had seen men at arms in France, both on foot and horseback, I must say, that the polished movements, and glittering armour of our Frenchmen, never gave me so much pleasure as I had then in seeing the savages combat. Besides their leaps, their hissings, and their skilful thrusts, it was a wonderful spectacle to see flying in the air so many arrows, with their great pennons of plumes, red, blue, green, carnation, and other colors, amid the rays of the sun, which made them glitter, and to see also so many helmets, bracelets, and other ornaments, made of these natural plumes, with which the combatants are covered.

'After the combat had lasted about three hours, and that there had been a good number killed and wounded on both sides, our Topinamboux having at last gained the victory, made prisoners of more than thirty Margajas, men and

women, whom they carried away into their country: and although we two Frenchmen had done nothing but hold our naked swords in our hands, and fire some pistol shots in the air to encourage our men, we saw that it was impossible to do them a greater pleasure than to go to war with them; for they esteemed us so much afterwards, that in the villages which we frequented, the old men always testified more friendship for us.

'The prisoners having been placed in the middle of the victorious band, bound, in order to secure them the better, we returned to our river of Janeiro, in the neighbourhood of which these savages inhabited. As we had gone twelve or fifteen leagues, ask not, if, in passing through the villages of our allies, they came not out to meet us, dancing, leaping, and clapping their hands to applaud and caress us. The poor prisoners were obliged, according to their custom, when they were near the houses, to sing and say to the women, 'here is the food which you love so much coming to you.' To conclude, when we were arrived before our isle, my companion and I went into a bark, and the savages went away, each to their residence.'

The Brasilians had an original mode of fortifying their villages. Before an interior enclosure, composed of a strong palisade, was thrown up a wall of loose stones, and the houses were pierced with holes, through which arrows could pass. A Portuguese force which attacked one of these forts, found its reduction extremely difficult; they were obliged to entrench themselves, in consequence of the furious sallies of the Indians, and wait the arrival of succours from the metropolis. And it was not until they had covered themselves with hurdles of canes, which secured them against arrows, that they at last forced the walls, and subdued the town.

Their rude agriculture was, from the extreme fertility of the soil, sufficient to maintain them in abundance. A day's work, it is said, often produced as much as would supply a native with food during the year. The principal objects of cultivation were the manioc, and other roots resembling it, which, after being dried and reduced to powder, were boiled into a thick substance that bore a considerable resemblance to bread. In war, or on a hunting excursion, they boiled it till it became hard, and it could thus be kept for a considerable time. These people had also a fermented liquor, in which they indulged with great avidity. The preparation was made in a manner truly savage. The roots having been softened by fire, the women seated themselves round the vessel containing them, put the different pieces successively into their mouth, and applying to the malt-mill of nature, their teeth, chewed, and then spit them into another vessel. This delicious pulp was afterwards boiled a second time, and being poured into earthen vessels, speedily fermented, and produced that liquor, which formed their favorite beverage.

The Brasilians have been said to have no idea of a Divinity, no expectation of a future state of rewards or punishments, nor a single tradition respecting the origin of the human race; an opinion which seems to have arisen solely from

their having no temples or sacrifices, and none of the ordinary pageantry of religious belief. It appears that they were always impressed with the belief of beings and powers superior to man. A traveller (M. Lery), who represents them as entirely devoid of religious ideas, mentions in one place his having heard their songs, in which, after lamenting the death of their ancestors, they console themselves with the hope of a future and joyful meeting beyond the lofty mountains. Others, on the contrary, they say, are shut up in gloomy abodes, where the Aignans, or evil spirits, torment them without intermission. They were not even entirely destitute of a priesthood; some offices of which were performed by their jugglers or conjurors, who are supposed to possess superhuman powers, and to hold intercourse with invisible beings. At their dances, which were considered as religious ceremonies, several of these jugglers always presided, and, during the intervals of dancing, carried about wooden poles stuck round with fruits, and having a hollow filled with tobacco, which being set fire to, the juggler breathed upon all present, pretending that through this medium the spirit infused into them force and vigor. These conjurors were also believed to have the power of foreseeing, and even of producing future events. In cases of disease, their aid was, therefore, particularly sought, and they were courted and caressed by all who labored under any distress. When the event did not correspond with the expectation of the votary, the failure, it is said, was attributed to the conjuror, and he suffered often severe vengeance. The great agencies of nature were also habitually worshipped. Thunder, whose effects are peculiarly striking in this climate, had attracted, in a remarkable degree, their adoration. They endowed it with mind, and viewed it, not only like other nations, as a formidable, but also as a beneficent power. To it they considered themselves as indebted for whatever they knew of the science of agriculture. The sun and moon had also attracted their attention. At certain periods, they raised their hands to them in a suppliant manner, with gestures and cries expressive of the profoundest veneration. By the race of evil beings, called Aignans, they often fancied themselves to be beaten and scourged with the utmost severity. Mr. Henderson represents them as believing in a creator of all, whom they denominated Tupan, and an evil spirit, called Anhangá, together with the immortality of the soul.

‘They consist,’ he adds, ‘of a vast number of nations, more or less numerous, and generally divided into tribes or hordes, wandering about in a state of nudity. The principal part of their time is employed in hunting, gathering honey, and such fruits as nature spontaneously produces. No state of government is found amongst them; each tribe has its elective captain, who directs them only on occasion of assaults, and in forming ambuscades against an enemy. Each nation has its peculiar idiom; but there is one exists among them, called the general lingua, which is the Tupinamba. At this day many tribes retain their ancient custom of perforating their faces, and using pieces of wood as ornaments. In con-

tracting marriages, the degree of relationship is not respected. Polygamy is admitted amongst particular individuals only, in a very few nations. Divorcements are generally very rare among them. They are acquainted with no liberal art, and have a great antipathy to civilisation. Thousands of instances have occurred, in which they have preferred fleeing from it back again into the woods, in pursuit of their former rude habits. Their inherent indolence is conspicuous, and they have but little consideration in life beyond the acquirement of their daily sustenance. Such as live upon the banks of auriferous rivers or lands, and come in contact with the Portuguese, will give pieces of gold for trifling articles of European manufacture, particularly knives. Few Indians are seen in any of the sea-port towns of the Brasil. Some are employed in the bay of Rio de Janeiro, rowing boats in the service of the government. They appear to keep themselves quite distinct, and do not mix with any other class of people. They are not tall, but their early occupation of hunting has given to their limbs much strength and agility. A fine proportion of form is their general characteristic, and they possess great muscular power. Their features are regular, and there is an universal resemblance between them and the various tribes. They are of a copper color, with strong, lank, black hair, which is permitted to hang over their ears, necks, and foreheads, adding something to the sombre aspect of their countenances, which are sad even to an extreme. There is nothing ferocious in their physiognomy; on the contrary, they seem very inoffensive. I never saw them indulge in any gaiety, rarely laughing, and speaking seldom. They are expert rowers; and, on a transient cessation from their labor, exhibit no disposition to hold converse with each other, nor curiosity or interest in the objects and bustle around them.’ We may add to this sketch, that of a late traveller in Brasil, M. Koster, which was principally drawn from information collected in the northern parts of the country. It principally relates to such as have in part renounced their roving habits, we should remark, and are become in some measure domiciliated with the European conquerors of their coasts.

The Indians are in general a quiet and inoffensive people; they have not much fidelity; but although they desert, they will not injure those whom they have served. Their lives are certainly not passed in a pleasant manner under the eye of a director, by whom they are imperiously treated, consequently it is not surprising that they should do all in their power to leave their villages and be free from an immediate superior; but even when they have escaped from the irksome dominion of the director, they never settle in one place. The Indian scarcely ever plants for himself, or, if he does, rarely waits the crop: he sells his maize, or mandioc, for half its value before it is fit to be gathered, and removes to some other district. His favorite pursuits are fishing and hunting; a lake or rivulet will alone induce him to be stationary for any length of time. He has a sort of independent feeling, which makes him spurn at any thing like a wish to deprive him of his own free agency; to the

director he submits because it is out of his power to resist. An Indian can never be persuaded to address the master to whom he may have hired himself by the term of *Senhor*, though it is made use of by the whites in speaking to each other, and by all other free people in the country; but the negroes also use it in speaking to their masters, therefore the Indian will not; he addresses his temporary master by the term of *amo* or *patram*, protector or patron. The reluctance to use the term of *senhor* may perhaps have commenced with the immediate descendants of those who were in slavery, and thus the objection may have become traditional. They may refuse to give by courtesy what was once required from them by law; however, if it began in this manner, it is not now continued for the same reason, as none of those with whom I conversed, and they were very many, appeared to know that their ancestors had been obliged to work as slaves.

‘The instances of murder committed by Indians are rare. They are pilferers rather than thieves. When they can they eat immoderately; but if it is necessary they can live upon a very trifling quantity of food, to which their idleness often reduces them. They are much addicted to liquor, and will dance in a ring, singing some of the monotonous ditties of their own language, and drink for nights and days without ceasing. Their dances are not indecent, as those of Africa. The Mulattoes consider themselves superior to the Indians, and even the Creole blacks look down upon them: ‘He is as paltry as an Indian,’ is a common expression among the lower orders in Brazil. They are vilely indifferent regarding the conduct of their wives and daughters: lying, and other vices attached to savage life, belong to them. Affection seems to have little hold upon them; they appear to be less anxious for the life and welfare of their children than any other cast of men who inhabit that country. The women, however, do not, among these semi-barbarians, perform the principal drudgery; if the husband is at home he fetches water from the rivulet, and fuel from the wood; he builds the hut whilst his wife takes shelter in some neighbour’s shed: but if they travel, she has her young children to carry, the pots, the baskets, and the excavated gourds; whilst the husband takes his wallet of goat-skin and his hammock rolled up upon his back, his fishing net, and his arms, and walks in the rear. The children are washed on the day of their birth in the nearest brook or pool of water. Both the men and women are cleanly in many of their habits, and particularly in those relating to their persons; but in some other matters their customs are extremely disgusting; the same knife is used for all purposes, and with little preparatory cleaning is employed in services of descriptions widely opposite. They do not reject any kind of food, and devour it almost without being cooked; rats, and other small vermin, snakes and alligators, are all acceptable.

‘The instinct, for I know not what else to call it, which the Indians possess above other men, in finding their way across a wood to a certain spot on the opposite side, without path or apparent mark, is most surprising; they trace footsteps over the dry leaves which lie scattered under the trees. The letter-carriers from one province to

another are mostly Indians; for from habit they endure great fatigue, and will walk day after day, with little rest, for months together. I have met them with their wallets, made of goat skin, upon their shoulders, walking at a regular pace, which is not altered by rough or smooth. Though a horse may outstrip one of these men for the first few days, still, if the journey continues long, the Indian will in the end arrive before him. If a criminal has eluded the diligence of the police-officers, Indians are sent in pursuit of him as a last resource. It is well known that they will not take him alive; each man who sees the offender fires, for they do not wish to have any contention. Nor is it possible for the magistrate to fix upon the individual of the party who shot the criminal; for if any of them are asked who killed him, the answer invariably is, ‘*os homens*,’ the men.

‘It is usually said that a party of Indians will fight tolerably well, but that two or three will take to their heels at the first alarm. Some of them, however, are resolute, and sufficiently courageous; but the general character is usually supposed to be cowardly, inconstant, devoid of acute feelings, as forgetful of favors as of injuries, obstinate in trifles, regardless of matters of importance. The character of the negro is more decided; it is worse, but it is also better. From the black race the worst of men may be formed; but they are capable likewise of great and good actions. The Indians seem to be without energy or exertion; devoid of great good or great evil. Much may, at the same time, be said in their favor; they have been unjustly dealt with, they have been trampled upon, and afterwards treated as children; they have been always subjected to those who consider themselves their superiors, and this desire to govern them has even been carried to the direction of their domestic arrangements. But no,—if they are a race of acute beings capable of energy, of being deeply interested upon any subject, they would do more than they have done. The priesthood is open to them, but they do not take advantage of it. I never saw an Indian mechanic in any of the towns; there is no instance of a wealthy Indian; rich mulattoes and negroes are by no means rare. I have had many dealings with them as guides and carriers, and subsequently as laborers, and have no reason to complain, for I was never injured by any of them; but neither did I receive any particular good service, excepting in the instance of Julio. For guides and carriers they are well adapted, as their usual habits lead them to the rambling life which these employments encourage. As laborers, I found that they had usually a great inclination to overreach; but their schemes were badly made, and, consequently, easily discovered. I never could depend upon them for any length of time, and to advance money or clothing to them is a certain loss. If I had any labor which was to be performed by a given time, the overseer would always reckon upon his mulatto and negro free people; but did not mention in the list of persons who were to work, any of the Indians whom I was then employing; and, on my speaking of them, he answered, ‘An Indian is only to be mentioned for the present day;’ meaning, that no reliance is to be placed upon them.

'Like most of the aboriginal inhabitants of the western hemisphere, these people are of a copper color. They are short, and stoutly made; but their limbs, though large, have not the appearance of possessing great strength, they have no show of muscle. The face is disproportionately broad, the nose flat, the mouth wide, the eye deep and small, the hair black, coarse, and lank; none of the men have whiskers, and their beards are not thick. The women, when they are young, have by no means an unpleasant appearance; but they soon fall off, and become ugly; their figures are seldom well shaped. Deformity is rare among the Indians; I do not recollect to have seen an individual of this race who had been born defective; and the well-informed persons with whom I conversed, were of opinion that the Indians are more fortunate in this respect than any other race with whom they were acquainted.'

The author of the *Etat Present du Portugal* says, there are twelve cities in Brasil, sixty-six towns, many villages; one archbishop, four bishops, and about 430,000 inhabitants, more than one-sixth of whom are Portuguese. So various are the accounts of its population.

Mr. Lindley, a recent traveller in Brasil, has given the following table of latitude and longitude, which he states himself to have obtained from Portuguese manuscript charts made after a new survey.

	Latitude.	Longitude.
	° ' "	° ' "
City of Belem . . .	1 30	48 30
Maranon . . .	2 32	43 40
Ciara . . .	3 31	38 23
Cape San Roque . .	5 7	36 15
Rio Grande . . .	5 17	36 5
Paraiba . . .	6 40	35 30
Olinda . . .	8 2	35 15
Cape San Augustine 8 26		35 15
Rio San Francisco 10 53		37
Bahia, or St Salvador 13		39 25
Dos Ilheos . . .	14 45	40 7
Porto Seguro . . .	16 40	40 12
Rio Carevellos . .	18	40 22
Banks of Abrolhos 18		38 5
Spiritu Santo . . .	20 13	40 30
Cape Frio . . .	22 54	41 35
Rio Janeiro . . .	22 54 10	42 39 45
Santos . . .	24	45 16
Island St Catherine 27 40		N. Pt. 47 36 S. Pt. 47 43
Immediate north point of the river Plata, or Punta de Este	34 57 30	43 30

Mr. Henderson in his late *Topographical Account* of Brasil, represents it as divided into the following twenty-two provinces, including those on the north bank of the river Maranon.

Maritime Provinces.

- | | |
|-----------------------|------------------------|
| 1. Guiana. | 9. Bahia. |
| 2. Para. | 10. Porto Seguro. |
| 3. Maranham. | 11. Espirito Santo. |
| 4. Seará. | 12. Rio de Janeiro. |
| 5. Rio Grande, North. | 13. St. Paulo. |
| 6. Paraiba. | 14. St. Catherina. |
| 7. Pernambuco. | 15. Rio Grande, South. |
| 8. Serecipe d'El Rey. | |

Interior Provinces.

- | | |
|-------------------|-------------------|
| 16. Matto Grosso. | 20. Piahy. |
| 17. Paraná. | 21. Minas Geraes. |
| 18. Uruguay. | 22. Goyaz. |
| 19. Solimoes | |

The actual government of the country, however, appears to be conducted on a more general division. Portuguese Guiana is on the north side of the Maranon, and the rest of this territory is divided into the twelve governments we have specified in our article *SOUTH AMERICA*, referred to above, which are sometimes also called *Capitanias*, though to one or two only is the term government applied.

In the latter part of the seventeenth century opened a brilliant era for Brasil, in the discovery of her gold mines. The home government being at this time engaged in war for the security of her own independence, at first neglected them, but in 1699 this was compensated by the activity of some enterprising individuals, who discovered and began to work several mines in the back settlements. The gold was abundant, and of easy extraction; and it soon appeared, that a vast source of treasure had been opened to the nation. The court of Lisbon now therefore resolved to take cognisance of the operations which were going on. It ordained, that, on the discovery of a mine, immediate notice should be given to the government; and that a fifth part of the produce should always be paid into the treasury. Other mines were now soon discovered; and the produce was so copious, that the king's fifth amounted to £480,000, and consequently the whole produce to more than two millions. At this rate it continued from 1728 to 1734. It then began gradually to diminish, till the whole produce sunk so low that the royal fifth did not amount to more than £257,400. The government, besides this original tax, imposed a duty of 2 per cent. on its conveyance to Europe, which yielded nearly £16,000, to which might be added the seignorage on the coinage of gold, amounting to nearly £80,000; which raised the whole revenue derived from this source to £353,400.

Thirty years after, this discovery was followed by another still more unexpected. The miners often met with little shining stones, which they threw away as useless with the sand and gravel. An overseer suspecting that these might be of some value, transmitted a specimen to the governor. They were immediately sent to Lisbon; and that court directed its ambassador in Holland, to have them examined by the lapidaries of that country, then reputed the most skillful in Europe. On repeated examinations, they were pronounced to be genuine and valuable diamonds. When this important intelligence reached Brasil, the stones were collected and sent over to Europe in such quantities as greatly to diminish their value. The court of Lisbon, on this, adopted its long system of rigorous monopoly. They vested the trade in an exclusive company, and even this body was restricted from employing more than 600 slaves; a restriction which was afterwards taken off, and its place supplied by a moderate tax on every slave employed. At length the government, envying the profits of the company, took the trade into its own hand:

all restrictions upon the collection of the diamonds were now removed; but it was enacted, that every person who found one should deliver it to one of the crown agents at a fixed price; out of which was deducted, as in the case of gold, the tax of a fifth. A series of the most rigorous precautions were employed, to prevent unlawful trade and embezzlement, both in the colonists employed in collecting the diamonds, and in the officers of the crown. The whole average sum produced to the government at a recent period by the mines of Brasil was £148,500 per annum. They are purchased by British and Dutch lapidaries, who cut and bring them into a proper state for the market. The gold is found in deep valleys or the channels of rivers. Frequent excavations occur, made by the gold washers, some of them fifty or a hundred feet wide, and eighteen or twenty feet deep. At other times the gold appears at little greater depth than the roots of the grass. For the most part it is found in a stratum of rounded pebbles and gravel, called *cascalhao*, which generally rests upon the solid rock. This stratum is covered with soil of different depths, and is very thin and uneven. At the gold washings of Santa Rita, visited by Mr. Mawe, it was nowhere more than two feet thick, and in many parts not more than seven or eight inches. The incumbent soil is removed at great labor and expense, being dug out and carried away in bowls, and the stratum of *cascalhao*, in which is contained the gold, is removed to a convenient place where there is water for washing it. The process by which the ore is separated from the earth in which it is embedded is different, according as water can be more or less easily procured. It is in general extremely simple, and is minutely described by Mr. Mawe, who was allowed to inspect the different gold washings established throughout the country. 'Where water,' he says, 'of sufficiently high level can be commanded, the ground is cut in steps, each twenty or thirty feet wide, two or three broad, and about one deep. Near the bottom a trench is cut to the depth of two or three feet. On each step stand six or eight negroes, who, as the water flows gently from above, keeps the earth continually in motion with shovels, until the whole is reduced to liquid mud, and washed below. The particles of gold contained in this earth descend to the trench, where, by reason of their specific gravity, they quickly precipitate. Workmen are continually employed at the trench to remove the stones and clear away the surface, which operation is much assisted by the current of water which falls into it. After five days washing, the precipitation in the trench is carried to some convenient stream, to undergo a second clearance. For this purpose wooden bowls are provided, of a funnel shape, about two feet wide at the mouth, and five or six inches deep, called *gamellas*. Each workman, standing in the stream, takes into his bowl five or six pounds weight of the sediment, which generally consists of heavy matter, such as oxide of iron, pyrites, ferruginous quartz, &c. of a dark carbonaceous hue. They admit certain quantities of water into the bowls, which they move about so dexterously, that the precious metal,

separating from the inferior and lighter substances, settles to the bottom and sides of the vessel. They then rinse their bowl in a larger vessel of clean water, leaving the gold in it, and begin again. The washing of each bowlful occupies from five to eight or nine minutes; the gold produced is extremely variable in quantity, and in the size of its particles; some of which are so minute that they float, while others are found as large as peas, and not unfrequently much larger. This operation is superintended by overseers, as the result is of considerable importance.

At Villa Rica, which was also visited by Mr. Mawe, he found the bed of *cascalhao* on the margin of the river, and workmen employed in cutting away the bank to the depth of about ten feet, before they could reach the vein containing the metal which was incumbent on the rock. The substance they had to cut through was a stiff clay, so strong, that though falls of water were let down upon it, and negroes were constantly employed in working it with hoes of various kinds, it was with difficulty removed. Nor was this the only impediment they had to struggle with; for, by the constant precipitation of mud from higher grounds, the *cascalhao* was five feet below the bed of the river; in consequence of which, all the pits which were sunk were immediately filled with water, which had to be drained away by means of machinery. The mode adopted at this place for washing the earth from the ore is thus described: 'Two planks, about ten or twelve inches broad, and about twelve or fifteen feet in length, are laid in the ground, forming an inclined plane, sloping one inch in twelve; two other planks of similar dimensions, are fixed in the same direction at the lower end, forming a second inclined plane, with a fall of six inches from the former. On their sides are boards placed edgeways, and staked down to the ground, so as to form long shallow troughs, the bottoms of which are covered with hides tanned with the hair on, having the hairy side outwards, or, in defect of these, with rough balse. Down these troughs is conveyed the water containing the oxide of iron and the lighter particle of gold; the latter substance precipitating in its course is entangled by the hair. Every half hour the hides are taken up, and carried to a tank near at hand, formed of four walls, say five feet long, four broad, and four deep, and containing about two feet depth of water. The hides are stretched over this tank and well beaten, then dipped and beaten repeatedly, until all the gold is disentangled, after which they are carried back and replaced in the troughs. The tanks are locked up at night and well secured. The sediment taken from them being light, is easily washed away by the hand, in the manner before described, leaving only the black oxide of iron, called *esmeril*, and the gold, which is so fine that mercury is used to separate it.

There is a great want of machinery and contrivance in these establishments, for expediting the various operations. Not even a cart or a wheelbarrow is in use. Every thing to be removed is carried on the heads of the poor negroes, in *gamellas* or bowls, who have in many instances to climb up steep ascents with their burdens,

where inclined planes might be used with great advantage, and might be formed with little trouble. Pumps, also, which would materially abridge the trouble of certain operations, could be erected with great advantage here, and the tedious process of washing the gold in bowls might be shortened by the use of the most simple hydraucal machines. In breaking down the substances which contain gold, mills might be constructed, by which all the metal contained in the ore could be more certainly extracted, and at far less labor and expense. There is even a deficiency of proper iron implements for the poor miners, and the impolitic tax of nearly 100 per cent. imposed on this necessary article, discourages both its importation and its production.

After the gold dust is separated from the substances with which it is combined, it is brought to the nearest mint, where it first pays a tax of one-fifth to the prince. It is afterwards subjected to the process of amalgamation with mercury, which being finished, the metal is sent to the assay-master, who, being satisfied of its weight and fineness, affixes to it the authority of public stamp, as a certificate of its worth, after which it is delivered to the owner for circulation. Those who bring gold dust to the mint experience very little delay before it is returned to them in the form of ingots. The gold is of different degrees of fineness. Mr. Mawe mentions that he has seen some of the bars so low as sixteen carats, and others as fine as twenty-three and a half carats, which is within half a carat of what is denominated pure gold. The standard is twenty-two, and, in whatever proportion the gold exceeds this, it receives a premium according to its fineness.

The district of Cerro do Frio, or of the Cold Mountains, in which the diamond works are established, consists of a range of rugged mountains, that have a northerly and southerly direction, and are generally allowed to be among the highest in Brasil. In these mountains, at the distance of about 300 miles in the interior, Mr. Mawe found the thermometer in the morning at 62°, and in the course of the day it rose to 70° and 74°, so that judging by the temperature, these mountains, which are situated about 18° south latitude, cannot be above the height of 4000 or 5000 feet above the level of the sea. The tract of country termed the diamond ground extends about fifty miles from north to south, and about twenty-five from east to west. Nearly in the middle of it, in a barren country, stands the town of Tejuco, which contains about 6000 inhabitants. The diamond works, by which the town is chiefly supported, are in the neighbourhood. The principal establishment is situated on the river Jijitonhonha, which falls into the Rio Grande; there are others situated on the Rio Velho, a branch of the Francisco, and on the Rio Pardo, as well as on various other small streams, which have their rise in this elevated country. The Rio Pardo though small and insignificant in its appearance, has produced as large a quantity of the most precious gems as any river in the district. The river Jijitonhonha, which is formed by the junction of several streams, is about as wide as the Thames at

Windsor, and is in general from nine to ten feet deep. When Mr. Mawe visited these works, they were working at a curve of the river, from which the stream was diverted by a canal cut across the tongue of land, round which it winded, the former course of the river being stopped just below the head of the canal, by an embankment across its channel, formed of several thousand bags of sand. This is an undertaking of considerable magnitude; for the river being both wide and deep, and occasionally subject to overflows, the embankment must be made so strong as to resist the pressure of the water, admitting it to rise to the height of four or five feet. After this operation, the water is drained away from all the deeper parts of the channel by means of large caissons or chain-pumps, which are worked by a water-wheel. The channel being in this manner laid dry, the mud is carried away, and the cascalhao is dug up and removed to a convenient place for washing. So little skill was displayed by the superintendents of the works in the contrivance of useful machinery, that until lately the task of removing the cascalhao was performed by the unassisted labor of negroes. Two inclined planes are now in use, about 200 yards in length, along which two carts are drawn by means of a large water-wheel, so contrived, that by the same operation one of these descends empty on one inclined plane, while the other loaded with cascalhao is drawn to the top of the other inclined plane, where having emptied itself, it descends in its turn. A mile higher up the river the cascalhao is removed by other engines, similar to those which are used in the mining county of Derbyshire, and there are also railways constructed over some parts of the uneven ground. The want of timber is an obstacle to the general introduction of machinery, as also the prejudices of the workmen, who are afraid that the use of these engines is part of a plan for entirely superseding manual labor. The cascalhao, after it is removed from the river, out of the channel of which it is dug, is laid down in heaps, containing apparently from five to fifteen tons each, and they generally calculate on being able to dig up as much cascalhao during the dry season as will afford full employment to the workmen during the rainy months. The stratum which contains the diamonds consists of the same materials as that which contains the gold. On many parts of the margin of the river large masses of rounded pebbles are found cemented by oxide of iron, which sometimes envelope both gold and diamonds. In all establishments of this nature an abundant supply of water is indispensable, and this necessary article is accordingly distributed through every part of the works by means of aqueducts constructed with great ingenuity and skill. Mr. Mawe gives the following account of the method of working for diamonds. 'A shed is erected,' he says, 'in the form of a parallelogram, twenty-five or thirty yards long, and about fifteen wide, consisting of upright posts, which support a roof thatched with long grass. Down the middle of the area of this shed a current of water is conveyed through a canal, covered with strong planks, on which the cascalhao is laid two or three feet thick. On the other

side of the area is a flooring of planks, from four to five yards long, embedded in clay, extending the whole length of the shed, and having a slope from the canal, of three or four inches to a yard. This flooring is divided into about twenty compartments or troughs, each about three feet wide, by means of planks placed upon their edge. The upper ends of all these troughs (here called canoes) communicate with the canal, and are so formed that water is admitted into them between two planks that are about an inch separate. Through this opening the current falls about six inches into the trough, and may be directed to any part of it, or stopped at pleasure by means of a small quantity of clay. For instance, sometimes water is required only from one corner of the aperture, then the remaining part is stopped; sometimes it is wanted from the centre, then the extremes are stopped; and sometimes only a gentle rill is wanted, then the clay is applied accordingly. Along the lower ends of the trough, a small channel is dug to carry off the water.

On the heap of cascalhao, at equal distances, are placed three high chairs for the officers or overseers. After they are seated, the negroes enter the troughs, each provided with a rake of a peculiar form and short handle, with which he rakes into the trough about fifty or eighty lbs. weight of cascalhao. The water being then let in upon it, the cascalhao is spread abroad, and continually raked up to the head of the trough, so as to be kept in constant motion. This operation is performed for the space of a quarter of an hour; the water then begins to run clearer, having washed the earthy particles away, the gravel-like matter is raked up to the end of the trough: after the current flows away quite clear, the largest stones are thrown out, and afterwards those of inferior size, then the whole is examined with great care for diamonds. When a negro finds one, he immediately stands upright and claps his hands, then extends them, holding the gem between his fore-finger and thumb; an overseer receives it from him, and deposits it in a gamella or bowl, suspended from the centre of the structure half full of water. In this vessel all the diamonds found in the course of the day are placed, and at the close of work are taken out and delivered to the principal officer, who, after they have been weighed, registers the particulars in a book kept for that purpose.

When a negro is so fortunate as to find a diamond of the weight of an octavo (seventeen carats and a half), much ceremony takes place; he is crowned with a wreath of flowers, and carried in procession to the administrator, who gives him his freedom, by paying his owner for it. He also receives a present of new clothes, and is permitted to work on his own account. When a stone of eight or ten carats is found, the negro receives two new shirts, a complete new suit, with a hat and a handsome knife. For smaller stones of trivial amount, proportionate premiums are given. During my stay at Tejuco, a stone of sixteen carats and a half was found; it was pleasing to see the anxious desire manifested by the officers that it might prove heavy enough to entitle the poor negro to his freedom, and when, on being delivered and weighed, it proved only a

carat short of the requisite weight, all seemed to sympathise in his disappointment.

Precautions are adopted to prevent the negroes from embezzling diamonds. Although they work in a bent position, and cannot therefore observe whether they are watched by the overseers, they may nevertheless omit gathering some of the diamonds which they may see, and placing them in a corner of the trough, afterwards contrive to secrete them. To prevent this, they are frequently changed while the operations are going on, and at the word of command given by the overseers, they must instantly move into each other's troughs, so as to prevent the possibility of collusion. If a negro be suspected of swallowing a diamond, he is confined within the bare walls of a strong room, where strong purgative doses are administered to him, in order to ascertain the fact. If he proves guilty, he is liable to personal chastisement, or to imprisonment, a much lighter punishment than would be inflicted on any white man for the same offence. The officers of the establishment are liberally paid, and they live in a style of elegance which no one would expect to find in so remote a place.

The diamonds are generally found in the flat pieces of ground on the margin of the rivers, and these generally prove equally rich throughout their whole extent; so that the superintendents of the works are enabled to estimate, with the utmost accuracy, the value of an unwashed place, from the produce which they have derived from the adjoining ground. The intendant frequently made such an observation as the following:— 'That piece of ground (speaking of an unworked flat by the side of the river), will yield me 10,000 carats of diamonds whenever we shall be required to get them in the regular course of working, or when, on any particular occasion, an order from government arrives, demanding an extraordinary and immediate supply.'

The surest indications of diamonds are bright bean-like iron ore, a slaty flint-like substance, approaching Lydian stone, of fine texture, black oxide of iron in great quantities, rounded bits of blue quartz, yellow crystal, and other materials, entirely different from any thing known to be produced in the adjacent mountains. On the banks of the Rio Pardo, the accompanying substances are somewhat different. No bean-like iron ore is found with diamonds; but a considerable quantity of flinty slate-like Lydian stone, in various shapes and sizes, and a very small black oxide of iron. The earthy matter is also much finer.

The washings on the river Jijitonhonha, and on the other rivers, have been established for many years, and great quantities of diamonds have been procured, some of them of the finest quality. They vary in size. Some are so small that four or five are required to weigh one grain, and sixteen or twenty are consequently necessary to make a carat. It is seldom that, in the course of a year, more than two or three stones of from seventeen to twenty carats are found, and not once in two years do the whole washings produce a stone of thirty carats. During the five days in which Mr. Mawe remained at the works, the whole quantity found amounted to only forty

carats; the largest of which was only four carats, and of a light green color. The diamond works in this district have been established for nearly forty years, and in time they must be completely explored. In this event, however, it is calculated that the country in the neighbourhood, and many parts also of that inhabited by the Indians will be found to yield this precious produce in equal abundance. Mr. Mawe estimated the average produce of the diamond district at 20,000 to 25,000 carats annually. 'The expenses of these works,' he says, 'during a period of five years, from 1801 to 1806 inclusive, amounted to £204,000, and the diamonds sent to the treasury of Rio Janeiro, during the same period, weighed 115,675 carats. The value of the gold found in the same time amounted to £17,300 sterling; from which it appears that the diamonds actually cost government 33s. 9d. per carat. These years were esteemed singularly productive. The mines in general do not yield to government more than 20,000 carats annually.'

The brilliant accounts of the gold and diamonds of Brasil, would naturally induce us to expect that the appearance and comforts of the people must correspond. Those who reside in the mining districts are said also to maintain this delusion, by assuming all possible state when they visit Rio de Janeiro. Viewed however at home, and in the centre of their riches, society assumes a different aspect. Their property consists simply of slaves, and the rude instruments necessary for working the mines. Mr. Mawe gives us a faithful transcript of the impressions made upon his mind in these scenes. Their dwellings he described as scarcely deserving the name of houses, for they are, in fact, the most wretched wicker and mud hovels that can be conceived, consisting of a few apartments joined together without regularity. A hole left for a frame, or a miserable door, serves for a window. The cracks in the walls are frequent, and rarely or never repaired. The floors, composed of clay, are rendered filthy by the habits of the inhabitants, with whom the pigs not unfrequently divide the right of possession. Some of their dwellings built upon posts, have stables underneath. These are superior to the former, but the disagreeable effects produced by the want of cleanliness, are, in this case, increased by the effluvia of the animals, which Mr. M. says he has frequently found to be intolerable.

Their furniture corresponds with their houses. The beds are merely coarse cotton cases filled with dry grass, or the leaves of Indian corn; there are seldom more than two in a house; many of the family sleeping on mats or hides laid on the floor. One or two tables, with a couple of chairs, and a few stools or benches, supply the place of all other furniture; add to these a few coffee-cups, a coffee-pot, and a drinking-cup (generally of silver), and in some instances a wash-hand basin of the same materials, and you have a catalogue of the household goods. Nothing can be more frugal than the whole economy of their tables, and their dress. The children generally go naked, and the youths have merely a jacket and cotton trowsers. The men, when at home, wear a capote or mantle wrapped about them,

and wooden clogs; but when they go abroad they appear in all their splendor, which forms as great a contrast to their domestic attire, as the gaudy butterfly to the chrysalis from which it springs. Nor is more attention paid to the dress of the females. 'In short,' says Mr. Mawe, 'in all those departments of domestic economy, which to the middle classes of other civilised nations are objects of expense, the Brasilians exercise the most rigid parsimony. At first I was inclined to attribute this disposition to a love of money, which prompted them to avoid all extravagance; but, on closer observation, I was surprised to find that it originated in necessity. They generally run in debt for the few articles they have to purchase, and thus find it difficult to maintain their negroes. If they purchase a mule, it is at one or two year's credit, and, of course, at double its ordinary price.'

Few of the numerous miners, it seems, are wealthy, or even comfortable, and a still greater number are wretchedly poor. Many of the mercantile classes enjoy superior comforts; but the indolence of the farmers, and the wretched state of cultivation, render the condition of most of those who spend their time in that pursuit equally miserable with that of the miners.

Of the inhabitants of what are called fazendas, or cattle estates, M. Koster observes, 'Unlike the Peones of the country in the vicinity of the River Plate, the Sertanejo has about him his wife and family, and lives in comparative comfort. The cottages are small, and built of mud, but afford quite sufficient shelter in so fine a climate; they are covered with tiles, where these are to be had, or, as is more general, with the leaves of the carnauba. Hammocks usually supply the place of beds, and are by far more comfortable, and these are likewise frequently used as chairs. Most of the better sort of cottages contain a table, but the usual practice is for the family to squat down upon a mat in a circle, with the bowls, dishes, or gourds in the centre, thus to eat their meals on the floor. Knives and forks are not much known, and are not at all made use of by the lower orders. It is the custom in every house, from the highest to the lowest, as in former times; and, indeed, the same practice prevailed over all the parts of the country which I visited; for a silver basin, or one of earthenware, or a cuia, and a fringed cambric towel, or one that is made of the coarse cotton-cloth of the country, to be handed round, that all who are going to sit down to eat, may wash their hands; and the same ceremony, or rather necessary piece of cleanliness, takes place after the meal is finished. Of the gourds, great use is made in domestic arrangements; they are cut in two, and the pulp is scooped out, then the rind is dried, and these rude vessels serve almost every purpose of earthenware; water is carried in them, &c. and they are likewise used as measures. They vary from six inches in circumference to about three feet, and are usually rather of an oval shape. The gourd, when whole, is called cubaca, and the half of the rind is called cuia. It is a creeping plant, and grows spontaneously in many parts, but in others, the people plant it among the mandioc.

'The conversation of the Sertanejos usually turns upon the state of their cattle, or of women, and occasionally accounts of adventures which took place at Recife, or some other town. The dress of the men, when at home, is only a shirt and drawers. The women have a more slovenly look, as their only dress is a shift and petticoat, no stockings, and oftentimes no shoes; but when they leave home, which is very seldom, an addition is made of a large piece of white cloth, either of their own, or of European manufacture, and this is thrown over the head and shoulders; a pair of shoes are then likewise put on. They are good horsewomen, and the high Portuguese saddle serves the purpose of a side-saddle very completely. Their employment consists in household arrangements entirely, for the men even milk the cows and goats, the women spin and work with the needle. No females of free-birth are ever seen employed in any kind of labor in the open air, excepting in that of occasionally fetching wood or water, if the men are not at home. The children generally run about naked till a certain age, but this is often seen even in Recife; to the age of six or seven years, boys are allowed to run about without any clothing.'

Mr. Henderson thus describes the devotions of the people within a few miles of Rio de Janeiro. 'It was Sunday, and the tocsin had already sounded the signal for mass, and was gradually assembling its votaries. Many of the females, as in Scotland, walked without shoes and stockings. A spring amongst some rocks, served as a purifying fountain, whence they issued in silk stockings and embroidered shoes, ascending the hill into the veranda, sat down on the floor, beat their bosoms, and with other brief ceremonies concluded the devotional exercise. The padre sat down to gamble at cards, and some of the females danced not ungracefully with their castanets.'

In all parts of the country which Mr. Mawe visited he observed the same indolent slovenly habits. The people seemed to feel no confidence in anything they possessed, and to be always on the 'make-shift.'

To counteract the irresistible temptation to smuggling, held out in the mining and diamond districts, the most severe laws are enacted, and the whole country, from the gold washings to the coast, and throughout the diamond district, is subjected to a vexatious military police. On all the roads there are stations at which an officer is placed with twenty horse soldiers under him, who are continually patrolling: and whenever they observe a stray passenger, instantly ride up to him, questioning him strictly as to his business and the purposes of his journey; and to all their questions he must give satisfactory answers before he is allowed to pass. They are authorised to detain all travellers, without distinction, and to subject them to the strictest search, provided they suspect them of concealing gold or diamonds. Travellers, on the other hand, with their mules, are required to stop at all the military posts, or registers, which are established on the different roads, to deliver their passports to a soldier for the inspection of the commander, who, if he judge the account given of the pro-

perty to be correct, suffers them to proceed; but if any ground of suspicion occur, the mules are unloaded, and the contents of all the parcels are scrutinised with the utmost rigor. If diamonds or gold are found among the goods, the travellers, with all their mules, are instantly detained in some of the strong cells with which the registers are provided, until they can be remanded to the proper tribunals, where they are either condemned to perpetual banishment to the African colonies, or to hopeless captivity at home. There is no doubt, however, that a contraband trade is carried on both in gold and diamonds to a great extent; it is impossible on any other principle to account for the eagerness displayed by the inhabitants of Tejuco to hire out their negroes to serve in the diamond works.

The roads in the interior are frequently bad; although there are some which have been made at great expense, and which are tolerably good. The road from the coast to St. Paul's, which passes over lofty mountains, is carried through deep and impassable woods, and frequently a path is cut through the solid rock. Mr. Mawe, who travelled this route, commends the public spirit of those who planned such an undertaking, which must have been executed at vast expence, and in opposition to many difficulties. The usual mode of travelling is by mules, by whom the coffee, sugar, cotton and grain of the country are transported to the coast, in exchange for salt, iron, woollens, cottons, common and finer earthenware, and glass. By this means also in the houses of the interior all sorts of English manufacture are to be found.

The islands off the coast of Brasil are of small importance. The chief is St. Catherine's, separated from the province of that name by a channel, in some places not above a league in width. The sea breeze, blowing regularly here every afternoon, renders the climate of the island very agreeable. It is mountainous, the hills being separated by pleasant valleys, which are better cultivated than most parts of Brasil, and the oranges grown here are thought superior to any in America. The chief town is Desterro, situated on a small bay on the west coast. St. Francisco, with a town of the same name, is farther north, about six leagues in length, and merely separated from the continent by a narrow channel. St. Vincente, another small island, situated in a bay opposite the city of St. Paul's, is five or six leagues long, and contains the town and port of Santos, which may be considered as the port of St. Paul's.

BRASIL WOOD. See CÉSALPINIA.

BRASILETTO, the same with Brasil wood.

BRASILIANs, the inhabitants of Brasil. See BRASIL.

BRASILIAN STONE, a species of stone found in Brasil, which is flexible. 'No quality,' says Dr. Hutton, in his description of one of these stones, 'is more inconsistent with the character of a stone than flexibility. A flexible stone, therefore, presents an idea, which naturally strikes us with surprise. For though, among mineral bodies, we find flexible substances of the stony kind, such as mica, mountain leather, and amianthus, these minerals owe their flexibility either

to their thinness, or to the fibrous structure of their parts. Therefore, when a stone of any considerable thickness is said to have flexibility, we are led to think it something very extraordinary. Such, however, is the stone from Brasil, of which the Baron de Dietrich read a description in the Royal Academy of Sciences, in Jan. 1784. There is a specimen of a stone which corresponds with that description, inserted in the Journal de Physique for 1784, which belonged to the late Lord Gardenstone. The length of the stone, which I have examined, is twelve inches, the breadth about five, and the thickness half an inch. When this is supported by the two ends, in a horizontal position, the middle part bends by its own weight, more than a quarter of an inch from the straight line. The Doctor adds, that the stone 'has a certain flexibility to which neither the terms ductile nor elastic will properly apply. The flexibility of this stone is so easy, compared with the rigidity of its substance, and its elasticity so small compared with its flexibility, that there must be in this body some mechanical structure by which this unnatural degree of flexibility is produced, i. e. a flexibility which is not inherent in the general substance of the body. Now the substance of this stone being chiefly quartz, the most rigid and inflexible of all materials, and the stone, at the same time, bending in such an easy manner, there is reason to conclude that this rises from no principle of flexibility in the general substance of the stone, but from some species of articulation in the structure of it, or among its constituent parts, which, while it preserves the component particles in one entire mass, suffers the parts to move a certain space in relation to each other.' Dr. Hutton then gives an account of different examinations he made by the microscope, by splitting, and by the blow-pipe; from which he concludes that the 'particles of quartz, which have little cohesion, are bound together by thin plates of transparent mica; and these connecting plates being flexible, this allows a certain motion of the rigid particles among themselves, without the fracture or general separation of the stone.'

BRASILIANUS, in entomology, a species of cerambyx: thorax ferruginous: wing-cases pointed, testaceous, with three little glabrous yellow lines. Inhabiting Brasil. Also a species of scarabæus, found in dung in Brasil. Color deep black: shield of the head emarginate: wing-cases striated.

BRASILIANUS, in ornithology, a species of caprimulgus: color blackish, with small white and yellow spots: varied beneath with black and white. This is the Brazilian goat-sucker of Latham.

BRASILIENSIS, in entomology, a species of cicada, with two horns on the thorax. Inhabiting Brasil. Also a sort of gryllus, inhabiting Europe.

BRASILIENSIS, in zoology, a species of rana, of a yellowish ash-color, with waved red spots: glabrous beneath. Inhabiting Brasil.

BRASLAV, or **BRACLAW**, a town of Russia in Europe, in the government of Wilna, situated on the borders of a large lake in Courland. Previous to 1795 it belonged to the palatinate of Wilna. Seventy-six miles N.N.E. of Wilna, and 296 north-east of Warsaw.

BRASMA, a name given by Dioscorides, and other ancient botanists, to a decayed or light kind of black pepper. This was no peculiar species of pepper, but, as John Bauhine has well observed, it was the same with the pepper we now frequently meet with, which has decayed upon the plant.

BRASS',	} Persian, <i>braj</i> , <i>burinj</i> ; Anglo-Saxon, <i>bræs</i> ; Swed. <i>brent æs</i> ; Goth. <i>bratz</i> ; Fr. <i>brasier</i> ; Sp. <i>brasero</i> ; from Goth. BRASS'PANED, and Swed. <i>brasa</i> , <i>βρα-</i> ζω, to burn. A hard yellow metal, purified copper, a worker in brass, assumed countenance, impudence, effrontery.
BRASS'Y,	
BRAS'IER,	
BRASS'EMBOSS'D,	
BRASS'FOUNDER,	
BRASS'VISAG'D,	
BRAZ'EN, originally BRAS'EN.	

More firme and durable than steele or *brasse*,
Or the hard diamond, which them both doth passe.
Spenser

All which, not if an hundred tongues to tell,
And hundred mouthes, and voice of *brasse* I had,
And endlesse memorie that mote excell,
In order as they came could I recount them well.
Id.

Losses
Enough to press a royal merchant down,
And pluck commiseration of his state
From *brassy* bosoms, and rough hearts of flint.
Shakspeare.

There is a fellow somewhat near the door, he
should be a *brasier* by his face. *Id.*

Men's evil manners live in *brass*, their virtues
Men write in water. *Id.*

Brass is made of copper and calaminaris.
Bacon.

Let others mold the running mass
Of metals, and inform the breathing *brass*.
Dryden.

It is thought they had no chimneys, but were
warmed with coals on *brasiers*. *Arbuthnot.*

Yet he was fierce as a forest boar,
Whose spoils upon his back he wore,
As thick as Ajax' seven-fold shield,
Which o'er his *brazen* arms he held:
But *brass* was feeble to resist
The fury of his armed fist;
Nor could the hardest iron hold out
Against his blows but they would through't.
Butler's Hudibras.

From his proud car, the prince impetuous springs;
On earth he leaps; his *brazen* armour rings.
Pope's Iliad.

His front with tenfold plates of *brass*,
Secured, shame never yet could pass,
Nor on the surface of his skin
Blush for that guilt which dwells within.
Churchill.

At eve, within yon studious nook
I ope my *brassembossed* book,
Portrayed with many a holy dead
Of martyrs crowned with heavenly meed.
Warton.

But I do hate him, as I hate the devil,
Or that *brass-visaged* monster barbarism.
Ben Jonson.

— A foundry was established at Adrianople ; the metal was prepared ; and, at the end of three months, Urban produced a piece of *brass* ordnance of stupendous and almost incredible magnitude ; a measure of twelve palms is assigned to the bore ; and the stone bullet weighed above six hundred pounds.

Gibbon.

BRASS, or, as the French call it, yellow copper, is made of copper and zinc, as well as copper and tin. See CHEMISTRY. The first formation of brass, as we are assured by Scripture, was prior to the flood, and discovered in the seventh generation from Adam. (Gen. iv.) But the use of it was not, as is generally believed, and the Arundelian marbles assert, previous to the knowledge of iron. They were both first known in the same generation, and probably wrought by the same discoverer. The knowledge of them must have been equally carried over the world afterwards, with the spreading of the colonies of the Noachide. An acquaintance with the one of them was absolutely necessary to the colonists, in clearing away the wood, and erecting houses for their habitations. The ancient Britons, though acquainted from the remotest periods with the use of both these metals, remained long ignorant that they were to be obtained in the island. Before this discovery they imported all their iron and brass. And when they had at length detected the former in their own hills, they continued to import the latter. In the earliest ages the weapons of warriors were invariably framed of this factitious metal ; and the Arundelian marbles, for that reason, mistakenly date the first discovery of iron two centuries below the Trojan war. Every military nation is studious of brightness in its arms ; and the Britons, particularly, gloried in that of theirs. For this reason the nations still fabricated their arms of brass, even long after the Arundelian era for the discovery of iron ; and the Britons continued to import it, though they had found iron to be a native of the country, and could have supplied themselves with a sufficient quantity. Mr. Whitaker, in his History of Manchester, supposes, that when the Britons derived their iron and brass from the continent, they purchased the latter at an easier expense than the former. The Gauls had many large brass works in Britain, but seem to have had very few iron forges. And this would naturally induce the Belgæ to be less diligent in their enquiry after the veins of copper and calamine at home, than for the courses of the iron ore ; though the one was equally discoverable in the island as the other, and lay equally within the Belgic regions of it. Brass being thus cheaper than iron, they necessarily formed with it some domestic as well as military implements. Such were common among the Gauls ; and were familiar to the Britons, either imported, as some actually were, or manufactured at home, as others assuredly were. The Britons had certain brass foundries, and minted money, and fabricated weapons of brass. In this condition of the works the Romans entered the Island. And seeing so great a demand among the natives for this article, they would speedily instruct them to discover the materials of it among themselves.

This must unavoidably have resulted from the conquest of the Romans. The power of surprising their new subjects with so unexpected a discovery would naturally stimulate the pride of the Roman intellect ; and the desire of obliging themselves with so cheap a supply of that useful metal, stationary as they were in that kingdom, would also equally actuate their selfishness. The veins of copper and calamine would be easily found out by an experienced enquirer after them ; and the former metal is therefore distinguished among the Welsh only by the Roman appellation of cyprium, koppr, or copper. Many new foundries of brass appear now to have been established. Two have been discovered in the county of Essex, and within a narrow portion of it, at Fifield and Danbury. And a third was placed upon Easterly Moor in Yorkshire, twelve miles to the north-west of York, and in the neighbourhood of Isurium or Aldborough.

The brass of the ancients was generally an alloy of copper and tin ; a small portion of the latter gives to copper great hardness, and makes it capable of much greater resistance ; but tin in larger quantities produces an increased brittleness : its elasticity is however now very great, and it is called bell-metal. A still greater proportion of tin forms it into an alloy for the mirrors of telescopes. The alloy of copper with zinc is distinguished by the beautiful color it affords. Pinchbeck has but a small proportion of zinc : common brass has more, and prince's metal, as it is called, a still greater proportion of zinc. Copper mixed with a very large proportion of zinc is used for white metal buttons, &c.

If we take the weight of an atom of copper at 8, tin 7·35, and zinc 4 ; the following Table will exhibit the proportions of the alloys, expressed in atoms, and their proportions by weight, the third column pointing out the color and character of the resulting compound. C Z and T represent the atoms of the metals respectively.

COMPOUNDS OF ZINC WITH COPPER.

Atoms	Proportions by Weight.	Character and Color of the Compounds.
C+Z	1 to 2	The best proportions for common brass.
C+2Z	1 to 1	The alloy called prince's metal, of a beautiful gold color.
C+3Z	2 to 3	Of a paler yellow, very little malleable.
C+4Z	1 to 2	Still of a lighter color, and not malleable.
C+5Z	2 to 5	Yellowish white & brittle.
C+6Z	1 to 3	Very brittle, nearly white.
2C+Z	4 to 1	A very malleable brass used in watch-work.
3C+Z	6 to 1	An alloy much harder than copper and inclining to its color.

COMPOUNDS OF TIN WITH COPPER.

Atoms.	Proportions by Weight.	Character and Color of the Compounds.
T + C	11 to 12	A very brittle and rather white alloy.
2T + C	11 to 6	Still more brittle and more white.
3T + C	11 to 4	Very white, used for speculums.
4T + C	11 to 3	Coarse-grained and too brittle for any purpose.
T + 2C	11 to 24	A yellowish alloy, very hard and sonorous.
T + 3C	11 to 36	Bell metal.
T + 4C	11 to 48	A very hard alloy used for some culinary vessels.
T + 5C	11 to 60	Softer but not malleable.
T + 6C	11 to 72	Still increases in softness and of a yellower color.
T + 7C	11 to 84	Used for some purposes in machinery.
T + 8C	11 to 96	An alloy used for cannon.
T + 9C	11 to 108	More common for cannon and machinery, and used for bronze statues.

Brass is made nowhere more extensively or better than in England, where the materials are found of the first quality, and in great abundance. The operation is very simple: after the short process of calcination, the native calamine is ground in a mill, and mixed at the same time with about a fourth part of charcoal. The whole is now put into large cylindrical crucibles, with alternate layers of copper, cut in small pieces, or in the form of shot. Powdered charcoal is then thrown over the mixture, when the crucibles are covered and luted up. The furnace has the form of a cone, with the base downwards, and the apex cut off horizontally. The crucibles are placed upon a perforated iron plate, at the bottom, with a sufficient quantity of fuel thrown round them, and a perforated cover, made of bricks or clay, is fitted to the mouth, which serves as a register to regulate the heat. After about ten or fifteen hours, the copper is supposed to be sufficiently penetrated with the zinc, and the heat is increased in order to fuse the whole down into one mass, when the crucibles are removed, and the melted brass poured into moulds, and manufactured in the same way as copper plate. If the materials are good, a single fusion is sufficient to make good malleable brass; but the finest sorts undergo a second operation with fresh calamine and charcoal. Though the process in all places is nearly the same, there are considerable variations in the proportion and choice of the ingredients. In Great Britain, the proportions in weight are about forty parts of copper, and sixty of calamine, with a sufficient quantity of charcoal; in

France, thirty-five of copper, thirty-five of old brass, forty of calamine, and from twenty to twenty-five of charcoal; in Sweden, forty of copper, thirty of old brass, and sixty of calamine. In Saxony, the cadmia, or sublimed oxide of zinc, is used instead of the native calamine; and the proportions are thirty parts of copper, from forty to forty-five of cadmia, with double the quantity of charcoal.

BRASS, or BRAZEN. See BRAZEN.

BRASS COLOR, a color prepared by the braziers and colormen to imitate brass. There are two sorts of it; the red brass or bronze, and the yellow or gilt brass; the latter is made only of the very smallest and brightest copper filings; with the former they mix some red ochre, finely pulverised; they are both used with varnish. To make a fine brass that will not take any rust or verdigris, it must be dried with a chafing dish of coals as soon as it is applied. The finest brass color is made with powder brass imported from Germany, diluted into a varnish, made and used after the following manner: the varnish is composed of 1 lb. 4 oz. of spirit of wine, 2 oz. of gum lac, and 2 oz. of sandarac; these two last drugs are pulverised separately, and afterwards put to dissolve in spirit of wine, taking care to fill the bottle but half full. The varnish being made, mix the quantity to be used with the pulverised brass, and apply it with a small brush to what is to be colored. But too much must not be mixed at once, because the varnish being very apt to dry, there would not be time to employ it all soon enough; it is therefore better to make the mixture at several times. In this manner figures of plaster are colored, and look as well as if they were of cast brass.

BRASS, CORINTHIAN, famous in antiquity, is a mixture of gold, silver, and copper. L. Mummius having sacked and burnt the city of Corinth, A. A. C. 146, it is said this metal was formed from the immense quantities of gold, silver, and copper, wherewith that city abounded, thus melted and run together by the violence of the conflagration. Very little is known, however, of this metal. Its era of being in use must have been very short, as we are told by Pliny that the art of making it had been utterly lost in his time.

BRASS LEAF is made of copper, beaten out into very thin plates, and afterwards rendered yellow. The German artists, particularly those of Nuremberg and Augsburg, are said to possess the best method of giving to these thin plates of copper a fine golden color, by simply exposing them to the fumes of zinc, without any real mixture of it with the metal. These plates are cut into little pieces, and then beaten out fine like leaves of gold; after which they are put into books of coarse paper, and sold at a low price for the vulgar kinds of gilding. The parings or shreds of these very thin yellow leaves being well ground on a marble plate, are reduced to a powder similar to gold; which serves to cover, by means of gum water or some other glutinous fluid, the surface of various mouldings or pieces of curious workmanship, giving them the appearance of real bronze, and even of fine gold, at a very trifling expense, because the gold color of this metallic powder may be easily raised and

improved by stirring it on a wide earthen basin over a slow fire.

BRASS LUMPS, a common name given by miners to the globular pyrites. See **PYRITES**.

BRASS THRICE CALCINED, in the glass trade, is a preparation which serves the glassmen to give many very beautiful colors to their metal. To prepare it, place thin plates of brass on tiles on the leet of the furnace near the occhis; let it stand to be calcined there for four days, and it will become a black powder sticking together in lumps. Powder this, sift it fine, and recalcine it it four or five days more; it will not then stick together, but remain a loose powder, of a russet color. This is to be calcined a third time in the same manner; but great care must be taken in the third calcination, that it be not overdone nor underdone; the way to be certain when it is right is, to try it several times in glass while melting. If it makes it, when well purified, to swell, boil, and rise, it is properly calcined; if not, it requires longer time. This makes, according to the different proportions in which it is used, a sea-green, an emerald green, or a turquoise color. Brass, by long calcination alone, and without any mixture, affords a fine blue or green color for glass; but they have a method of calcining it also with powdered brimstone, so as to make it afford a red, a yellow, or a chalcedony color, according to the quantity and other variations in using it. The method of making the calcination is this: cut thin plates of brass into small pieces with shears, and lay them stratum super stratum, with alternate beds of powdered sulphur, in a crucible; calcine this for twenty-four hours in a strong fire; then powder and sift the whole; and finally expose the powder upon tiles for twelve days to a reverberating furnace; at the end of this time, powder it fine, and keep it for use. The glass-makers have also a method of procuring a red powder from brass, by a more simple calcination, which serves them for many colors. The method is this: they put small and thin plates of brass into the arches of the glass furnaces, and leave them there until they are sufficiently calcined, which the heat in that place, not being enough to melt them, does in great perfection. The calcined matter powdered, is of a dusky red, and requires no farther preparation.

BRASSA, one of the Shetland isles, lying in the sound of that name. Long. 0°. 10' W., lat. 60°. 10' N.

BRASSA SOUND, an extensive sound, on the coast of Shetland, in which 1000 vessels might be commodiously moored. It abounds with herrings. The Dutch have sometimes had 2000 busses in it in one summer.

BRASSE, in ichthyology, a species of perca.

BRASSICA, cabbage: a genus of the siliquosa order, and tetradymania class of plants; ranking under the siliquosæ, in the natural method. The calyx is erect and converging; the seeds are globular; the gland between the shorter stamina and the pistillum, and between the longer ones and the calyx. There are twelve principal species, viz. 1. *B. alpina*, with the radical leaves egg-shaped, and erect petals. 2. *B. arvensis*, with scalloped leaves embracing the stem; the highest heart-shaped; and most entire. 3. *B.*

campestris, with a slender root and stem, leaves uniform, heart-shaped, and sessile. 4. *B. Chinensis*, with very entire oval leaves; the floral leaves lanceolated, and embracing the stem; the calyxes longer than the claw of the petals. 5. *B. eruca*, with lyrated leaves, shaggy stem, and smooth capsules. 6. *B. erucastrium*, with runcinate leaves, a hispid stem, and polished capsules. In these two species, and the vesicaria, the style is ensiform: in all the rest it is obtuse. 7. *B. napus*, with the root stem spindle-shaped. 8. *B. oleracea*, with the radical stem growing columnar and fleshy. 9. *B. orientalis*, with heart-shaped smooth leaves, embracing the stem, and four cornered capsules. 10. *B. rapa*, with the radical stem growing orbicular, depressed, and fleshy. 11. *B. vesicaria*, with runcinate leaves, and hispid capsules covered with a tumid calyx. 12. *B. violacea*, with lanceolated, egg-shaped, smooth, undivided, and dentated leaves.

The *campestris* never varies. It grows naturally on the sea-shore, in the south of England, &c. It has a perennial branching stalk, in which it differs from all the other species. In very severe winters, when the other sorts are destroyed, this is a necessary plant, for the most severe frosts do not injure it. The flower-stalks grow from the end of the branches, and spread horizontally; but those arising from the centre of the plants grow erect, and seldom put out branches. The cauliflower has been much more improved in Britain than in any other part of Europe. In France they rarely have cauliflowers till Michaelmas, and Holland is generally supplied with them from Britain. In many parts of Germany there were none of them cultivated till within a few years past, and most parts of Europe are supplied with seeds from Britain. The *Chinensis*, which is generally known by the title of rape or cole seed, is much cultivated in the Isle of Ely, and some other parts of England, for its seed, from which rape oil is drawn; and it has also been cultivated of late years in other places for feeding cattle, to great advantage. The cole-seed, when cultivated for feeding cattle, should be sown about the middle of June. The ground should be prepared as for turnips. The quantity of seeds for an acre is from six to eight pounds, and as the price is not great, so it is better to allow eight pounds; for if the plants are too close in any part, they may be easily thinned in hoeing, which must be performed as for turnips, with this difference only, of leaving these much nearer together; for as they have fibrous roots and slender stalks, so they do not require near so much room. These plants should have a second hoeing about five or six weeks after the first, which, if well performed in dry weather, will entirely destroy the weeds, so they will require no farther culture. Where there is not an immediate want of food, these plants had better be kept as a reserve for hard weather, or spring-feed, when there may be a scarcity of other green food. If the heads are cut off, and the stalks left in the ground, they will shoot again early in the spring, and produce a good second crop in April; which may be either fed off, or permitted to run to seeds, as is the practice where this is cultivated for the seeds; but if

the first is fed down, there should be care taken that the cattle do not destroy their stems, or pull them out of the ground. As this plant is so hardy as not to be destroyed by frost, so it is of great service in hard weather for feeding ewes; for when the ground is so hard frozen that turnips cannot be taken up, these plants may be cut off for a constant supply. This will afford late food after the turnips are run to seed; and if it is afterwards permitted to stand for seed, one acre will produce as much as, at a moderate computation, will sell for £5 clear of all charges. Partridges, pheasants, turkeys, and most other fowls, are very fond of this plant; so that wherever it is cultivated, if there are any birds in the neighbourhood, they will constantly lie among these plants. The seeds are sown in gardens for winter and spring salads, this being one of the small salad herbs.

The common white, red, flat, and long-sided cabbages, are chiefly cultivated for autumn and winter use; the seeds must be sown the beginning or middle of April, in beds of good fresh earth; and when the young plants have about eight leaves, they should be pricked out into shady borders, about three or four inches square, that they may acquire strength, and not grow long-shanked. About the middle of June they must be transplanted, where they are to remain. If they are planted for a full crop in a clear spot of ground, the distance from row to row should be three feet and a half, and in the rows two feet and a half asunder: if the season should prove dry when they are transplanted, they must be watered every other evening until they have taken fresh root. Afterwards, as the plants advance in height, the earth should be drawn about the stems with a hoe, which will keep it moist about their roots, and greatly strengthen the plants. These cabbages will some of them be fit for use soon after Michaelmas, and will continue until the end of February, if they are not destroyed by bad weather: to prevent which the gardeners near London pull up their cabbages in November, and trench their ground up in ridges, laying their cabbages against the ridges as close as possible on one side, burying their stems in the ground: in this manner they let them remain till after Christmas, when they cut them for the market; and although the outer part be decayed (as is often the case in very wet or hard winters), yet if the cabbages were large and hard when laid, the inside will remain sound.

The Russian cabbage was formerly in much greater esteem than at present, it being now only to be found in particular gentlemen's gardens, who cultivate it for their own use. This must be sown late in the spring, and managed as those before directed, only that these must be sooner planted out, and must have an open clear spot of ground, and require much less distance every way, as it is but a very small hard cabbage. This sort will not continue long before they will break and run up to seed. The early and sugar-loaf cabbages are usually sown for summer use, and are what the gardeners about London commonly call Michaelmas cabbages. The season for sowing these is about the end

of July, or beginning of August, in an open spot of ground; and when the plants have got eight leaves, they must be put into beds at about three or four inches distant every way, that they may grow strong and short-shanked; and towards the end of October they should be planted out; the distance that these require is, three feet row from row, and two and a half asunder in the rows. The ground must be kept clean from weeds, and the earth drawn up about the plants. If they are of the early kind, they will turn in their leaves in May; when the gardeners near London, to obtain them a little sooner, tie in their leaves close with a slender osier twig to blanch their middle; by which means they have them at least a fortnight sooner than they could have if they were left untied.

The early cabbage being the first, we should plant the fewer of them, and a greater quantity of the sugar-loaf kind, which comes after them; for the early kind will not supply the kitchen long, generally cabbaging apace, and soon growing hard and bursting open; but the sugar-loaf kind is slow in cabbaging; and being hollow, continues long. It may be planted out in February, and will succeed as well as if planted earlier; with this difference only, that they will be later before they cabbage. Some plants of the early kind should be reserved in a well sheltered spot of ground to supply a defect; for in mild winters many of the plants are apt to run to seed, especially when they are sown too early, and in severe winters they are often destroyed. The Savoy cabbages are propagated for winter use, being generally esteemed the better when pinched by the frost. They must be sown about the end of April, and treated after the manner of the common white cabbage; only they may be planted closer; two feet and a half square will be sufficient. These are always much better in an open situation, clear from trees and hedges; for in those places they are apt to be eaten by caterpillars, &c. especially if the autumn prove dry.

The broccoli may also be treated in the same manner, but need not be planted above one foot asunder in rows of two feet wide; these are never eaten till the frost has rendered them tender, being otherwise tough and bitter. The seeds of the broccoli, of which there are several varieties, viz. the Roman or purple, the Neapolitan or white, and the black broccoli, with some others (but the Roman is preferred to them all), should be sown about the end of May or beginning of June; and when the plants are grown to have eight leaves, transplant them into beds like the common cabbage; and towards the end of July they will be fit to plant out; which should be done into some well-sheltered spot of ground, but not under the drip of trees; about a foot and a half distant, in rows of two feet wide. The soil ought to be rather light than heavy: if they succeed well (as they will unless the winter prove extremely hard), they will begin to show small heads of a purple color, about the end of December, and will continue eatable till mid-April. The brown or black broccoli is by many persons greatly esteemed, though it does not deserve a place where the Roman broccoli can be

obtained, which is much sweeter, and will continue longer in season. But the brown sort is much hardier, so that it will thrive in the coldest situations, where the Roman broccoli is sometimes destroyed. The brown sort should be sown in the middle of May, and managed like the common cabbage, and should be planted about two feet and a half asunder. As they grow very tall, they should have the earth drawn up to their stems as they advance in height. They do not form heads so perfect as the Roman broccoli; the stems and hearts of the plants are the parts which are eaten. The Roman broccoli, if well managed, will have large heads, which appear in the centre of the plants like clusters of buds. These heads should be cut before they run up to seed, with about four or five inches of the stem; the skin of these stems should be stripped off before they are boiled. After the first heads are cut off, there will be a great number of side shoots produced from the stems, which will have small heads to them, but are full as well-flavored as the large. The Naples broccoli has white heads very like those of the cauliflower, and eats so like it as not to be distinguished from it. Besides this first crop of broccoli, which is usually sown in the end of May, it will be proper to sow another crop the beginning of July, which will come in to supply the table the latter end of March, and the beginning of April; and being very young, will be extremely tender and sweet. To preserve good seeds of this kind of broccoli, a few of the largest heads of the first crop should be let remain to run up to seed, and all the under shoots should be constantly stripped off, leaving only the mainstem to flower and seed. If this be duly observed, and no other sort of cabbage permitted to seed near them, the seeds will be as good as those procured from abroad, and the sort may be preserved in perfection many years.

The curled colewort, or Siberian broccoli, is now generally esteemed, being extremely hardy, and always sweeter in severe winters than in mild seasons. This may be propagated by sowing the seeds in the beginning of July; and when the plants are strong enough they should be planted in rows about a foot and a half asunder, and ten inches distance in the rows. These will be fit for use after Christmas, and continue good until April. The musk cabbage may be propagated in the same manner as the common cabbage, and should be allowed the same distance: it will be fit for use in October, November, and December; but if the winter proves hard, they will be destroyed much sooner than the common sort. The common colewort, or Dorsetshire kale, is now almost lost near London, where their markets are usually supplied with cabbage plants instead of them. The best method to cultivate this plant in the fields is, to sow the seeds about the beginning of July, choosing a moist season, which will bring up the plants in about ten days or a fortnight; the quantity of seed for an acre of land is 9lbs; when the plants have five or six leaves they should be hoed, as for turnips, cutting down all the weeds, and also thinning the plants where they are too thick: but they should be kept thicker than turnips, because they are

more in danger of being destroyed by the fly: this work should be performed in dry weather, that the weeds may be killed. About six weeks after, the plants should have a second hoeing, which, if carefully performed in dry weather, will entirely destroy the weeds, and make the ground clean, so that they will require no farther culture. In spring they may be either drawn up and carried out to feed the cattle, or the cattle may be turned in to feed upon them: but the former method is to be preferred, because there will be little waste; whereas when the cattle are turned in amongst the plants, they will tread down and destroy more than they eat, especially if they are not fenced off by hurdles. The two last sorts are varieties fit only for a botanic garden, being of no use. They are annual plants, and perish when they have perfected their seeds. The best method to save the seeds of all the sorts of cabbages is, about the end of November, to pull up some of the best cabbages, and carry them to some shed, where they should be hung up three days by their stalks, that the water may drain from between their leaves. Then plant them in some border near a hedge or pale, quite down to the middle of the cabbage, leaving only the upper part of the cabbage above ground, observing to raise the earth above it, so that it may stand a little above the level of the ground: especially if the ground is wet, they will require to be raised pretty much above the surface. If the winter should prove very hard, lay a little straw lightly upon them, to secure them from the frost, taking it off as often as the weather proves mild, lest by keeping them too close they should rot. In spring they will shoot out strongly and divide into a great number of small branches. Therefore support their stems, to prevent their being broken off by the wind: and if the weather should be very hot and dry when they are in flower, refresh them with water once a-week all over the branches, which will greatly promote their seeding, and preserve them from mildew. When the pods begin to turn brown, cut off the extreme part of every shoot with the pods, which will strengthen the seeds; for these seeds which grow near the top of the shoots, are very subject to run to seed before they cabbage. When the seeds begin to ripen, be particularly careful that the birds do not destroy it. The best method to prevent this, is to get a quantity of birdlime, and daub over a parcel of slender twigs, which should be fastened at each end to stronger sticks, and placed near the upper part of the seed in different places, so that the birds may alight upon them, and be fastened thereto; where they should be allowed to remain, to terrify the rest. When the seed is fully ripe, cut it off; and after drying, thresh it out, and preserve it in bags for use. In planting cabbages for seed, never plant more than one sort in a place, or near one another: for example, never plant red and white cabbages near each other, nor Savoy with white or red cabbages; for they will, by the commixture of their farina, produce a mixture of kinds. See BOTANY. It is owing to this neglect, that the gardeners rarely save any good red cabbage seed in Britain, but are obliged to procure fresh seeds from abroad; whereas if they would plant red

cabbages by themselves for seed, and not suffer any other to be near them, they might continue the kind as good in Britain as in any other part of the world.

BRASSICÆ, in entomology, a species of chrysomela, found on the cabbage in Germany. Color deep black, wing-cases pale and testaceous, with a black band and margin of the same color. Also a species of staphylinus, a native of Europe. Color ferruginous, head and body black, wing-cases punctated, antennæ hairy. Also a species of phalæna and aphid, the pediculus of Frisch.

BRASSICARIA, a species of phalæna noctua, inhabiting South America, the wings of which are indented and marked with a gold spot, posterior pair white. Also a species of the musca genus, the musca cylindrica of Degeer.

BRASSICAVIT, **BRASSICOURT**, or **BRACHICAVIT**, in the menage, is a horse whose fore legs are naturally bended arch-wise: so called by way of distinction from an arched horse whose legs are bowed by hard labor.

BRASSOŚ, a river of Mexico, which, rising in the province of Cohahuila, in 34° N. lat. and 105° W. long., enters the province of Texas, and discharges itself into the gulf of Mexico, in 28° 40' N. lat. after a course of 700 miles. Where the road crosses it, it is 300 yards wide, and navigable for large keels. It rises and falls 100 feet. Like those of most of the rivers of Mexico, its waters are red; its banks are well timbered, and the soil around is rich.

BRAST. Ang.-Sax. burstan; particip. adj. (from burst). To burst, to break out; burst, broken.

A col fox, full of sleigh iniquitee,
That in the grove had wonned yeres three,
By high imagination forecast,—
The same night, thurghout the hegges *brast*
Into the yerd ther Chaunteclere the faire
Was wont, and eke his wives, to reaire.

Chaucer's Canterbury Tales.

She loveth Arcite so,
That when that he was absent any thowre,
Anone hire thought hire herte *brast* a two.

Chaucer's Annelinda and False Arcite.

There creature never past,
That back returned without heavenly grace,
But dreadful furies which their chains have *brast*,
And damned sprights sent forth to make ill men
agast. *Spenser.*

Foiled, bleeding, breathless, furious to the last,
Full in the centre stands the bull at bay,
Mid wounds, and clinging darts, and lances *brast*,
And foes disabled in the brutal fray.

Byron's Childe Harold.

BRAT, *n. s.* its etymology is uncertain; **bratz**, in Saxon, signifies a blanket; Goth. *berat*, or *brat*, one signifies a child, the other a rag or fragment. The Metropolitan says, 'it is the past participle of the Ang.-Sax. bred-an; anything nourished, cherished, fostered; warmed as in a blanket: hence its application to very young children. A brat is a term of contempt also for a child. The Saxon bratt corresponds with our words shift and sham. It signifies also a covering. Brat, in Welch, is a clout, or rag.

For ne had they but a shete

Which that they may wrappen hem in a-night,
And a *bratt* to walken in by day-light,—

They wold hem sell, and spend it on this craft,
They cannot stinten, till no thing be laft.

Chaucer's Canterbury Tales.

He leads them like a thing
Made by some other deity than nature,
That shapes man better; and they follow him,
Against us *brats*, with no less confidence,
Than boys pursuing summer butterflies.

Shakspeare.

This *brat* is none of mine:
Hence with it, and, together with the dam,
Commit them to the fire. *Id.*

The friends, that got the *brats* were poisoned too;
In this sad case what could our vermin do?

Roscommon.

Jupiter summoned all the birds and beasts before
him, with their *brats* and little ones, to see which of
them had the prettiest children. *L'Estrange.*

The two late conspiracies were the *brats* and offspring
of two contrary factions. *South.*

I shall live to see the invisible lady, to whom I
was obliged, and whom I never beheld since she was
a *brat* in hanging sleeves. *Swift.*

I give command to kill or save,
Can grant ten thousand pounds a year,
And make a beggar's *brat* a peer. *Id.*

BRATHYS, in botany, a genus of plants, class polyandria, order monogynia. Gen. char. CAL. perianth five-leaved: COR. petals five: STAM. filaments many; anthers twin: PIST. styles five; stigmas capitate: PER. capsule ovate: SEEDS very many. There are several species, all of which are thick shrubs.

BRATHWAYTE (Richard), an English poet, was born in 1588, at Warcop near Appleby. He became, at sixteen, a commoner of Oriel College, Oxford, whence he removed to Cambridge. He was afterwards deputy-lieutenant for Westmoreland, captain of a company, and justice of the peace. He died at Appleton in Yorkshire, in 1673. His works are, The Golden Fleece, with other Poems, 8vo; Essays on the Five Senses, 8vo; The Poet's Willow, or the Passionate Shepherd, 8vo; Nature's Embassy, or the Wild Man's Measures, 8vo; The Prodigal's Tears, 8vo; Time's Curtain Drawn, divers Poems, 8vo; The English Gentleman, 4to; The English Gentlewoman, 4to; The Arcadian Princess, 8vo; Discourse of Detraction, 12mo; Itinerarium Barnabii, or Drunken Barnaby's Journey; Time's Treasury, 4to; Poem to Charles II. on his Restoration, 4to; Regicidium, a tragedy, 8vo; Survey of History, or a Nursery for Gentry, 4to; A Certain Lecture, 12mo; Spiritual Spicery, or Tracts of Devotion, &c. &c.

BRATTLEBOROUGH, a post town of the United States, in Windham county, Vermont, agreeably situated on the south-west side of West river; about five miles above its confluence with the Connecticut. It is thirty-seven miles east of Bennington, and 312 from Philadelphia.

BRAVE , <i>v., n. & adj.</i> BRAVING , <i>n.</i> BRAVE'LY , BRAVE'NESS , BRA'VERY , BRAVA'DO , BRA'VO .	} Goth. <i>brage</i> ; excellent; Isl. <i>brage</i> , a hero; Goth. <i>brahe</i> ; Swed. <i>braf</i> ; Belgic <i>braaf</i> ; Dan. and Teut. <i>brav</i> ; French <i>brave</i> ; It. Sp. Port.
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bravo; Arm. *bruo*; Irish, *bra*; Scot. *brave*. Gal-

lant, courageous, excellent, fine, adorned, and courageous in the same sense that *probus* produces prowess. Bravado, Ital. *bravado*; *bravazzo*, a pretender to bravery; affected courage. Brave, bravery, and bravado, are used indiscriminately and in many instances to express ostentatious bragging; a bragging, boastful, ostentatious display of finery, of dress, of pride, of power, of courage, of daring. A brave, and to brave, are still so used; while brave the adjective, and bravery the noun, are employed to express simply courage.—*Ency. Met.*

What brave exploit, what peril hardly wrought,
What puissant conquest, what adventurous pain,
May please her best, and grace unto him gaine.

Spenser.

Streight forth issued a knight all armed to prooffe,
And bravely mounted to his most mishap:
Who staying nought to question from aloofe,
Man fierce at me, that fire glaunst from his horse's
hoofe.

Id.

Where all the *bravery* that eye may see,
And all the happiness that heart desire,
Is to be found.

Id.

Sweet rose! whose hue angry and brave
Bids the rash gazer wipe his eye;
Thy root is ever in its grave,

And thou must die.

Herbert.

Let not old age disgrace my high desire,
O heavenly soul in human shape contained!

Old wood inflamed doth yield the bravest fire,
When younger doth in smoke his virtue spend.

Sidney.

Never could man, with more unmanlike *bravery*,
use his tongue to her disgrace, which lately had sung
sonnets of her praises.

Id.

Rings put upon his fingers,
And brave attendants near him, when he wakes;
Would not the beggar then forget himself?

Shakespeare.

He upbraids Iago, that he made him
Brave me upon the watch.

Id.

My nobles leave me, and my state is *braved*,
Even at my gates, with ranks of foreign powers.

Shakespeare.

What dost thou gape and wonder at? Admire him
for his brave apparell, horses, dogs, fine houses, man-
nors, orchards, gardens, walks! Why? a fool may
be possessed of this as well as he; and he that ac-
counts him a better man, a nobleman for having of it,
is a fool himself.

Burton's Anat. Mill.

For a *bravery* upon this occasion of power, they
crowned their new king in the cathedral church of
Dublin.

Bacon.

An Egyptian soothsayer made Antonius believe,
that his genius, which otherways was *brave* and con-
fident, was, in the presence of Octavius Cæsar, poor
and cowardly.

Id.

Let princes choose ministers more sensible of duty
than of rising, and such as love business rather upon
conscience than upon *bravery*.

Id.

If there be iron ore, and mills, iron is a *brave*
commodity where wood aboundeth.

Id.

There are those that make it a point of *bravery* to
bid defiance to the oracles of divine revelation.

L'Estrange.

But who is this, what thing of sea or land?

Female of sex it seems,

That so bedecked, ornate and gay.

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Comes this way sailing

Like a stately ship

Of Tarsus bound for the isles

Of Javan or Gadire,

With all her *bravery* on, and tackle trim,

Sails filled and streamers weaving,

Courted by all the winds that hold her play.

Milton's Samson's Agonistes.

———— With all his force,

He *bravely* charged, and for a while

Forced their whole body to recoil.

Butler's Hudibras.

No fire, nor foe, nor fate, nor night,

The Trojan hero did affright,

Who *bravely* twice renewed the fight. *Denham.*

The ills of love, not those of fate, I fear;

These I can *brave*, but those I cannot bear.

Id.

Like a rock unmoved, a rock that *braves*

The raging tempest, and the rising waves. *Id.*

Ye Greeks! be men! the charge of battle bear;

Your *brave* associates, and yourselves revere!

Let glorious acts more glorious acts inspire,

And catch from breast to breast the noble fire!

On valour's side the odds of combat lie,

The *brave* live glorious, or lamented die;

The wretch who trembles in the field of fame,

Meets death, and worse than death—eternal shame!

Pope's Iliad.

The *brave* do never shun the light,

Just are their thoughts, and open are their tempers;

Freely without disguise they love or hate.

Love's Fair Penitent.

For boldness, like the *bravoes* and banditti, is sel-
dom employed, but upon desperate services.

Government of the Tongue.

No *bravoes* here profess the bloody trade,

Nor is the church the murderer's refuge made.

Gay.

Cowards are cruel, but the *brave*

Love mercy, and delight to save.

Id.

Spain, to make good the *bravado*.

Names it the invincible Armado. *Anonymous.*

It denotes no great *bravery* of mind, to do that out
of a desire of fame, which we could not be prompted
to by a generous passion for the glory of him that
made us.

Spectator.

Juba, to all the *bravery* of a hero,

Adds softest love, and more than female sweetness.

Addison.

Unmoved he hears the general call,

And *bravely* tramples on them all.

Churchill's Duellist.

By nature cautious as he's *brave*.

To honour only he's a slave.

Id.

The *brave* unfortunate are our best acquaintance,

They show us virtues may be much distressed,

And give us their example how to suffer.

Francis's Eugenia.

BRAULS, in commerce, Indian cloths with
blue and white stripes. They are otherwise
called turbants, because they serve to cover those
ornaments of the head, particularly on the coast
of Africa.

BRAUNA, BRAUNAU, BRAUNAU, or BRA-
NAU, a town of Germany, in Bavaria, seated on
the river Inn. It has a strong fortress: notwith-
standing which, it was taken by the Austrians in
1743.

BRAVO, one of the Cape de Verd islands,
on the coast of Africa, settled by Portuguese,
remarkable for its excellent wines. The land is

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very high, and consists of mountains which look like pyramids. It abounds in Indian corn, gourds, water melons, potatoes, horses, and hogs. There is also plenty of fish on the coast, and the island produces salt-petre.

BRAURON, a town of Attica, where Diana had a temple. The goddess had three festivals called Brauronia, celebrated once every fifth year by ten men, who were called *ιεροποιοι*. They sacrificed a goat to the goddess, and it was usual to sing one of the books of Homer's Iliad. The most remarkable that attended were young virgins in yellow gowns, consecrated to Diana. They were about ten years of age, and not under five, and therefore their consecration was called *δεκατειναι*, from *δεκα*, *decem*; and sometimes *αρκτενναι*, as the virgins themselves bore the name of *αρκτοι*, *bears*, from this circumstance. There was a bear in one of the villages of Attica, so tame, that he ate with the inhabitants, and played harmlessly with them. This familiarity lasted long, till a young virgin treated the animal too roughly, and was killed by it. The virgin's brother killed the bear, and the country was soon after visited by a pestilence. The oracle was consulted, and the plague removed by consecrating virgins to the service of Diana. This was so faithfully observed, that no woman in Athens was ever married before a previous consecration to the goddess. The statue of Diana of Taurus, which had been brought into Greece by Iphigenia, was preserved in the town of Brauron. Xerxes carried it away when he invaded Greece.

BRAWL', *v. & n.* } Fr. *braillier*; Belgic,
BRAWLER, } *brallen*; to roar. It is
BRAWLING. } contracted, says the Metropolitana, from *brabble*. To riot, to bully, to affect bravery, to wrangle, to rail, in a loud and noisy manner.

He findeth that controversies thereby are made but *brawls*; and therefore wisheth, that, in some lawful assembly of churches, all these strifes may be decided.
Hooker.

Never since that middle summer's spring
Met we on hill, in dale, forest, or mead,
But with thy *brawls* thou hast disturbed our sport.
Shakespeare.

As he lay along
Under an oak, whose antique root peeps out
Upon the brook that *brawls* along this wood.
Id.

His divisions, as the times do *brawl*,
Are in three heads; one power against the French,
And one against Glendower.
Id.

She troubled was, alas! that it might be,
With tedious *brawlings* of her parents dear.
Sidney.

Here comes a man of comfort, whose advice
Hath often stilled my *brawling* discontent.
Shakespeare.

How now! Sir John! what, are you *brawling* here?
Does this become you, *pace*, your time, your business?
Id. Henry IV.

Their battering cannon charged to the mouths,
Till their soul-fearing clamours have *brawled* down
The flinty ribs of this contemptuous city.
Id.

That bonum is an animal,
Made good with stout polemic *brawl*. *Hudibras.*

In council she gives licence to her tongue,
Loquacious, *brawling*, ever in the wrong. *Dryden.*
Leave all noisy contests, all immodest clamours,
brawling language, and especially all personal scandal and scurrility, to the meanest part of the vulgar world.
Watts.

BRAWL'. Fr. *branle*; Span. *brando*; It. *brando*, *branla*; Scot. *brangel*, from Lat. *vibrando*. A kind of dance.

And thence did Venus learn to lead
The Idalian *brawles*, and so to tread
As if the wind, not she, did walke;
Nor prest a flower, nor bowed a stalke.
Ben Jonson. The Vision of Delight.
Master, will you win your love with a French *brawl*.
Old Play.

Tis a French *brawl*, an apish imitation,
Of what you really perform in battle.

Massing. Picture.
My grave iord-keeper led the *brawls*
The seal and maces danced before him.
Gray. A long Story.

BRAWN';
BRAWN'ED, } Latin, *aprugna*; Teut.
BRAWN'ER, } *eburn*; see BOAR. *βραχνω*;
BRAWN'INESS, } Lat. *brachium*. Boars' flesh.
BRAWN'Y, } Muscular, nervous, fleshy,
BRAWN'FALLEN. } strong.

The best age for the boar is from two to five years, at which time it is best to geld him, or sell him for *brawn*.
Mortimer.

His limmes gret, his *braunes* hard and stronge,
His shoulders broad, his armes round and longe.
Chaucer.

I'll hide my silver beard in a gold beaver,
And in my vantage put this withered *brawn*.
Shakespeare.

I had purpose]
Once more to hew thy target from thy *brawn*. *Id.*
Her wanted joys thenceforth and court she shuns,
And still within her mind the footman runs,
His brazen calves, his *brawny* thighs (the face
She slights), his feet shaped for a smoother race.
Marvell.

The *brawny* fool, who did his figure boast,
In that presuming confidence was lost. *Dryden.*

The native energy
Turns all into the substance of the tree,
Starves and destroys the fruit, is only made
For *brawny* bulk, and for a barren shade. *Id.*
But most their looks on the black monarch bend,
His rising muscles and his *brawn* commend;
His double biting ax, and beamy spear,
Each asking a gigantic force to rear. *Id.*

The hoisterous hands are then of use, when I
With this directing head, those hands apply;
Brawn without brain is thine. *Id.*

At Christmas time be careful of your fame,
See the old tenants' table be the same;
Then if you would send up the *brawn*er head,
Sweet rosemary and bays around it spread. *King.*
This *brawniness*, and insensibility of mind, is the
best armour against the common evils and accidents
of life. *Locke.*

So learned Taliacontius from
The *brawny* part of porter's bum
Cut supplemental noses, which
Would last as long as parent breech. *Butler.*

BRAWN is applied to the flesh of a boar when souced or pickled; for which end the boar should be old; because the older he is, the more horny will the brawn be. The method of preparing brawn is as follows: the boar being killed,

it is the fitches only, without the legs, that are made brawn; the bones of which are to be taken out, and then the flesh sprinkled with salt, and laid in a tray, that the blood may drain off: then it is to be salted a little, and rolled up as hard as possible. The length of the collar of brawn should be as much as one side of the boar will bear, so that when rolled up it will be nine or ten inches diameter. The collar thus rolled up, is boiled in a copper, or large kettle, till it is so tender, that a straw can be run through it; then it is set aside, till it is thoroughly cold, and put into the following pickle: to every gallon of water, put a handful or two of salt, and as much wheat-bran: boil them together, then drain the bran as clear as you can from the liquor; and when the liquor is quite cold, put the brawn into it.

BRAXY, or BRACKS, a disease incident to sheep, supposed to arise from excess of blood. It attacks them in autumn, and the most lusty and vigorous of the flock fall a prey to it. It kills in two hours from the time it is first observed. It is computed that one-fourth die of it. Dr. Anderson's prescription, tobacco oil, has been applied with success as a remedy; and bleeding in summer has been found an effectual preventive.

BRAY', *s.* From Fr. *braye*, in fortification also *bas enceinte*.

BRAY', *v. a.* Fr. *broyer*; Arm. *brew*; W. *briuw*. See TO BREAK. To beat in a mortar, to pound, to grind.

I'll burst him; I will *bray*

His bones as in a mortar. *Chapman.*

Except you would *bray* Christendom in a mortar, and mould it into a new paste, there is no possibility of a holy war. *Bacon.*

BRAY', *v. & n.* } Goth. *bræca*, Swed. *bræ-*
BRAY'ER, } *ga*, correspond with *βραχω*;
BRAY'ING. } but Span. *borricare*, French
braire, are from *borrico*, a jack ass; to roar, to cry like an ass: applied to any sudden or violent action or motion, to an uproar; thus to any noise or clamour.

And Christe's people proudly curse
With brode boke and *braying* bell,
And put pennies in their purse,
Thei wol sell bothe heaven and nei.

Chaucer's Canterbury Tales.

Then doe the salvage beasts begin to play
Their pleasant friskes, and loath their wonted food.
The Lyons rore, the tygers loudly *bray*;
The raging buls re-bellow through the woods.

Spenser.

The whiles a most delicious harmony,
In full strange notes, was sweetly heard to sound,
That the rare sweetness of the melody
The feeble senses wholly did confound,
And the fraille soule in deepe delight nigh drowned;
And when they ceast, shrill trumpets loud did *bray*,
That their report did far away rebound;
And when they ceast, it gan againe to play;
The whiles the maskers marched forth in trim array.

Id.

Boisterous untuned drums,
And harsh resounding trumpets dreadful *bray*.

Shakspeare.

What, shall our feasts be kept with slaughtered men?

Shall *braying* trumpets, and loud churlish drums,
Clamours of hell, be measures to our pomp? *Id.*

Arms on armour clashing, *brayed*
Horrible discord.

Milton.

Laugh, and they

Return it louder than an ass can *bray*. *Dryden.*
'Egad if he should hear the lion roar, he'd cudgel him into an ass, and to his primitive *braying*.

Congreve.

Hold! cried the queen; a cat-call each shall win;
Equal your merits, equal is your din!
But that this well-disputed game may end,
Sound forth, my *brayers*! and the welkin rend.

Pope.

But at each word what shouts of praise!

Good gods! how natural he *brays*. *Gay's Fables.*

BRAY', Welch *bre*; Gael. *brigh*; from the Celtic *briga*, a mountain or high place, probably, says Todd, from broco, the upper part of a hill being in some places, called broo and brae. Ground raised as a fortification; a bank of earth.

Order was given that bulwarks, *brays*, and walls, should be raised in his castles, and strong holds on the sea side.

Lord Herbert.

But when to climb the other hill they gan,

Old Aladine came fiercely to their aid;

On that steep *bray* Lord Guelpho would not then

Hazard his folk, but there his soldiers staid.

Fairf: Tasso.

BRAY, a port town of Ireland, in the county of Wicklow, and province of Leinster, seated on St. George's channel, ten miles south of Dublin, and thirteen north of Wicklow.

BRAY, a town in Berkshire, on the Thames, a mile from Maidenhead; famous in song for its changeable vicar, who, having been twice a papist and twice a protestant, in the reigns of Henry VIII. Edward VI. Mary, and Elizabeth, was accused of being a turn-coat; but replied that he always stuck fast to his principle, which was, to live and die vicar of Bray. 'He had seen,' says the quaint Fuller, 'some martyrs burned, two miles off, at Windsor, and found the fire too hot for his tender temper.'

BRAY (Sir Reginald), a celebrated architect and politician, was the second son of Sir Richard Bray, one of the privy council to king Henry VI. Sir Reginald was instrumental in the advancement of king Henry VII. to the throne of England; and was greatly in favor with him. His skill in architecture appears from Henry VII's chapel at Westminster, and the chapel of St. George at Windsor, as he had a principal concern in building the former, and finishing the latter, to which he was also a liberal benefactor. In the middle of the south aisle is a spacious chapel built by him, and still called by his name. He died in 1501; and was interred in this chapel, probably under the stone where Dr. Waterland lies; for on opening the vault of that gentleman, who died in 1740, a leaden coffin of ancient form was found, which, by other appearances, was judged to be that of Sir Reginald, and was, by order of the dean, immediately arched over.

BRAY (Thomas), D. D., a learned divine, was born at Marton, in Shropshire, in 1656, and educated at Oxford. He was vicar of Over-Whitacre in Warwickshire: and in 1690 rector of Sheldon, where he composed his Catechetical Lectures; which procured him such reputation, that Dr. Compton, bishop of London, pitched

upon him as a proper person to model the infant church of Maryland; and for that purpose he was invested with the office of commissary. He now engaged in several noble undertakings. He procured sums to be raised for purchasing small libraries for the use of the poor ministers in several parts of the plantations; and to promote this design published Bibliotheca Parochialis, or a scheme of such theological and other heads as seem requisite to be perused by the clergy, &c. and Apostolical Charity, its Nature and Excellency considered. He endeavoured to get a fund established for the propagation of the gospel, especially among the Indians; and by his means a patent was obtained for erecting the corporation called The Society for Propagating the Gospel. He also wrote, 1. Martyrology, or Papal Usurpation, in 1 vol. fol.; 2. Directorium Missionarium; and other works. He died in 1730.

BRA'ZE,	} See BRASS. To burn, to give a burnt or brown color. To braze is to work in brass; to solder with brass. Brazen is poetically applied to sounds issuing from brazen instruments. Metaphorically, to whatever is hardened, obdurate, shameless, bullying and impudent.
BRA'ZEN, <i>adj.</i>	
BRA'ZEN BROWED,	
BRA'ZENFACE,	
BRA'ZENFACED,	
BRA'ZENLY,	
BRA'ZENNESS,	
BRAZEN-VAULTED.	

Trumpeters,
With *brazen* din blast you the city's ear,
Make mingle with your rattling tambourines.
Shakspeare.

If damned custom hath not *brazed* it so,
That it is proof and bulwark against sense. *Id.*

You do, if you suspect me in any dishonesty—
Well said, *brazenface*; hold it out. *Id.*

What a *brazenfaced* varlet art thou, to deny thou knowest me? Is it two days ago, since I tript up thy heels, and beat thee before the king. *Id. King Lear.*

I have so often blushed to acknowledge him, that now I'm *brazed* to it. *Id.*

—; nor unknown
The serpent, subtlest beast of all the field;
Of huge extent sometimes, with *brazen* eyes
And hairy mane terrific, though to thee
Not noxious, but obedient to thy call. *Milton.*

Quick-witted, *brazenfaced*, with fluent tongues,
Patient of labours, and dissembling wrongs. *Dryden.*

A bough his *brazen* helmet did sustain;
His heavier arms lay scattered on the plain. *Id.*

If the nut be not to be cast in brass, but only hath a worm *brazed* into it, this niceness is not so absolutely necessary, because that worm is first turned up, and bowed into the grooves of the spindle; and you may try that before it is *brazed* in the nut. *Moron.*

When I reprimanded him for his tricks, he would talk saucily, lie, and *brazen* it out, as if he had done nothing amiss. *Arbutnot.*

Pert Infidelity is Wit's cockade,
To grace the *brazen* brow that braves the skies,
By loss of being dreadfully secure.
Young's Infidel Reclaimed.

Much yet remains unsung. The rage intense
Of *brazen-vaulted* skies, of iron fields,
Where drought and famine starve the blasted year.
Thomson.

Would honest Tom G— get rid of a scold,
The torture, the plague of his life!
Pray tell him to take Down his lion of gold,
And hang up his *brazenfaced* wife.
Cunningham, to the Landlord of the Golden Lion.

BRAZEN DISH, among miners, is the standard by which the other dishes are gauged, and is kept in the king's hall.

BRAZEN SEA, in Jewish antiquity, one of the sacred utensils in the temple of Solomon. See JERUSALEM, TEMPLE OF.

BRAZIER, an artificer who makes and deals in all kinds of brass ware. This trade, as exercised in Britain, may be reckoned a branch of the smithery, though the braziers seldom keep forges, except for brazing or soldering, and tinning the insides of their vessels, which they work up out of copper and brass prepared rough to their hands. Many carry on the sale trade to a great extent, dealing in all sorts of iron and steel, as well as in copper and brass goods. They have also dealt much in what is called French plate, a sort of white metal, silvered and polished to such a degree that it is not easily distinguished from real silver.

BRAZIL. See BRASIL.

BRAZIL, an American wood commonly supposed to have been thus denominated, because first brought from Brasil: though Huet shows it had been known by that name many years before the discovery of that country: and the best sort comes from Fernambuc. It is used by turners, and takes a polish; but chiefly in dyeing, though it gives but a spurious red.—*Chambers.*

He loketh as a sparrowhawk with his eyen,
Him nedeth not his color for to dien
With *brazil*, ne with grain of Portugall.
Chaucer's Canterbury Tales.

BRAZING, the soldering two pieces of iron together by melting thin plates of brass between the pieces that are to be joined. If the work be very fine, as when two leaves of a broken saw are to be brazed together, they cover it with pulverised borax, melted with water, that it may incorporate with the brass powder, which is added to it: the piece is then exposed to the fire without touching the coals, and heated till the brass runs.

BRAZING is also the joining two pieces of iron together by beating them hot, the one upon the other, which is used for large pieces by farriers, &c.

BRAZZA, a large island of the Adriatic, belonging to Austria, opposite to the town of Spalatro in Dalmatia. It is about thirty miles long, and from six to nine broad, containing twenty small towns and villages, with 15,000 inhabitants. Large rocky tracts occupy the more elevated parts, and great labor and expense are necessary to bring any part of the ground into tillage; yet the inhabitants are constantly increasing their cultivated land, and their vintage, and diminishing the woods. The wine is accounted the best in Dalmatia; other vegetable productions are figs, oil, saffron, and almonds. Their corn is principally imported. Brazza has long been famous for its kids and lambs, which acquire a superior delicacy of taste; but the island is subject to drought, and fresh water is

generally scarce. The cheese of Brazza is in great repute. Bees and silk are also cultivated with success; and from the berries of the lentisk the poor peasants make a coarse oil. It belonged formerly to the republic of Venice, but was ceded by the peace of Campo Formio to Austria.

BREACH. Goth. *brican*; Ang.-Sax. *brecan*, *brecan*, to break. See *To BREAK*. Fr. *breche*. A gap; a rupture; a fracas; violation of contract, engagement, duty; dissention, separation, infringement, infraction, injury.

But the heedful boatman strongly forth did stretch
His brawny arms, and all his body strain;

That the 'utmost sandy *breach* they shortly fetch,
While the dread danger does behind remain.

Spenser.

That oath would sure contain them greatly, or the
breach of it bring them to shorter vengeance. *Id.*

This tempest

Dashing the garment of this peace, aboded
The sudden *breach* on't. *Shakspeare.*

O you kind gods!

Cure this great *breach* in his abused nature. *Id.*
What are those *breaches* of the law of nature and
nations, which do forfeit all right in a nation to govern?
Bacon.

Some to the *breach* against their foes
Their wooden saints in vain oppose. *Marvell.*

He was the first that e'er did teach
To make, and how to stop a *breach*. *Butler.*

Breach of duty towards our neighbours, still involves
in it a *breach* of duty towards God. *South.*

The laws of the gospel are the only standing rules
of morality; and the penalties affixed by God to the
breach of those laws, the only guards that can effectually
restrain men within the true bounds of decency and
virtue. *Rogers.*

It would have been long before the jealousies and
breaches between the armies would have been composed.
Clarendon.

This *breach* upon kingly power was without precedent.
Id.

Till mad with rage upon the *breach* he fired,
Slew friends and foes, and in the smoke retired.

Dryden.

The wall was blown up in two places; by which
breach the Turks seeking to have entered, made
bloody fight. *Knolles.*

But they were strictly enjoined not to commit the
first hostilities, which might be understood as a *breach*
of a treaty; and such was the implicit obedience of the
Roman general, that they retreated, with exemplary
patience, under a shower of Persian arrows, till they
had clearly acquired a just title to an honourable and
legitimate victory. *Gibbon.*

BREACH, in fortification, is made by the cannon
or mines of the besiegers, in order to make an
attack upon the place. To make the attack
more difficult, the besieged sow the *breach* with
crow-feet, or stop it with chevaux de frize. A
practicable *breach* is that where the men may
mount and make a lodgment, and ought to be
fifteen or twenty fathoms wide. The besiegers
make their way to it by covering themselves with
gabions, earth-bags, &c.

BREAD, } Islandic *braud*; Swed.
BREADEN, } *brod*; Ang.-Sax. *brood*,
BREAD-CHIPPER, } *brod*; Dan. *brød*; Teut.
BREAD-CORN. } *brod*, *brot*; Belg. *brood*;
Heb. *barout*; *βρωτος*; Heb. Syr. Sansc. Pers.

bar; Teut. *bere*; Arm. *bara*; Welch *bara*; Irish
bar; appear to have the same origin with our
bear, to bring forth, and signify, like the Latin
fruges, edible produce. Thus also Lat. *far*, is
from *féro*; Sax. *pic brod*, pigs' bread, was an
acorn; and Teut. *sowbread*, denotes, as with us,
the root of the cyclamen. Goth. *baigga*, was a
modification of the verb to bear; and *brac*,
barac, is said to have been anciently the general
name among Europeans for corn. Tooke,
however, sets aside all this learned labor and
conjecture. Bread, he affirms, is brayed grain;
bread being the past participle of *bray*, Fr.
braier, to pound or beat to pieces. Mr. Todd
remarks, 'It is full as probable, I think, that the
Saxon *brood*, whence our bread, is from the
verb *bredan*, to nourish. Who is right? It is
sometimes easier to tell what a thing is, than
whence it is.' By bread we are to understand
food in general, victuals; but particularly now
what is made of brayed or ground corn.

Them that are sick we commande and exorte by
our Lord Jesu Christ, that they worke with quietness,
and eate their oune bread. *Bible, 1551.*

Men loven of propre kind newefangelnesse,
As briddes don, that men in cages breed,
For though thou night and day take of him hede,
And strew his cage faire and soft as silke,
And give hem suger, hony, *bred* and milke,
Yet, right anon as that is dore is up,
He with his feet wol spurnen down his cup,
And to the wood he wol, and wormes ete,
So newefangel ben they of hire mete.

Chaucer's Canterbury Tales.

Ne doth she give them other thing to eat
But bread and water, or like feeble thing.

Spenser.

No abuse, Hal, on my honour; no abuse.—Not
to dispraise me, and call me pantler, and bread-
chipper, and I know not what? *Shakspeare.*

God is pleased to try our patience by the ingrati-
tude of those who, having eaten of our bread, have
lift up themselves against us.

* * King Charles, Johnson says, but he knew
better. Was Charles the author of the
Eikon?

In the sweat of thy face shalt thou eat bread
Till thou return unto the ground; for thou
Out of the ground wast taken; know thy birth,
For dust thou art, and shalt to dust return.

Milton.

He consulted with the oracle of his *breadden* god,
which because it answered not, he cast it into the fire.

Hall.

Shall they pretend to say that bread is bread,
If we affirm it as a God indeed?
Or there's no purgatory for the dead? *Marvell.*

If pretenders were not supported by the simplicity
of the inquisitive fools, the trade would not find them
bread. *L'Estrange.*

This dowager, on whom my tale I found,
A simple sober life in patience led,
And had but just enough to buy her bread.

Dryden.

How few
Like thee reserve their raiment for the naked,
Reach out their bread to feed the crying orphan,
Or mix the pitying tears with those that weep.

Rowe's Jane Shore

When I submit to such indignities,
Make me a citizen, a senator of Rome ;
To sell my country, with my voice, for *bread*.

Philips.

I neither have been bred a scholar, a soldier, nor
to any kind of business ; this creates uneasiness in
my mind, fearing I shall in time want *bread*.

Spectator.

Mankind have found the means to make grain into
bread, the lightest and properest aliment for human
bodies.

Arbuthnot.

Bread, that decaying man with strength supplies ;
And generous wine, which thoughtful sorrow flies.

Pope.

There was not one drop of beer in the town ; the
bread and *bread-corn*, sufficed not for six days.

Hayward.

When it is ripe, they gather it, and, bruising it
among *bread-corn*, they put it up into a vessel, and
keep it as food for their slaves.

Broome.

At my request mortality is fed
From heaven's high storehouse with celestial *bread*.

Elizabeth Rowe.

The same care and toil that raise a dish of peas
at Christmas, would give *bread* to a family during six
months.

Hume.

BREAD. The manufacture of bread in this country has attained a high degree of perfection, especially in that part of the process which depends on manual labor ; but we are still far behind our continental neighbours in the chemical manipulations ; and, what is somewhat singular, the bakers who pursue their useful avocations in the north of England, appear better acquainted with the art than the tradesmen of our own metropolis. We need hardly add, that there is no subject of more home importance in domestic economy, than the preparation of farinaceous food for this purpose.

Prior to any very particular examination of the mode of making bread, it may, however, be advisable to notice the chemical constituents of which it is formed. Wheat grown in this country contains from 18 to 24 per cent. of gluten, the remainder being principally starch. The wheat of the south of Europe, generally contains a larger quantity of gluten, and is, therefore, more excellent for the manufacture of macaroni, vermicelli, and other preparations requiring a glutinous paste. The excess of gluten in wheat-flour compared with other grain, renders it peculiarly fit for making bread ; for the carbonic acid, extricated during the fermentation of the paste, is retained in consequence of its adhesiveness, and forms a spongy and light loaf.

100 parts of barley contain upon an average 80 parts of starch, 6 of gluten, and 7 of sugar, the remaining 7 parts being husk.

From 100 parts of rye, Sir Humphery Davy, obtained 61 parts of starch, and 5 of gluten.

From 100 parts of oats he procured 59 of starch, 6 of gluten, and 2 of sugar.

100 parts of peas afford about 50 of starch, 3 of sugar, 4 of gluten, and a small portion of extractive matter.

100 parts of potatoes yield, upon an average, 20 parts of starch ; they may be considered, in general, as containing from one-fourth to one-fifth their weight of nutritive matter.

As to the proportion of these three constituents,

they differ so much in different kinds of wheat-flour, that nothing precise on the subject can be determined. The greater the proportion of gluten, the better in all cases is the flour. When the wheat has not fully ripened, or when it has been exposed to rain, while lying on the field, the gluten cannot easily be separated from the starch by the process above described ; nor does it form an elastic adhesive mass ; but a friable substance, distantly resembling the fibrous matter of potatoes. Hence the goodness of the flour may be determined by the state of the gluten.

Flour owes its property of making dough with water to gluten. Dough, in fact, is only a viscous and elastic tissue of gluten, the small cavities of which are filled with starch, albumen, and sugar. Hence it may be conceived that it is also to the gluten that dough is indebted for the property of rising by its mixture with barm or leaven. The yeast, by acting on the sugar of the flour, gives rise successively to the spirituous and the acid fermentations, and consequently to alcohol, acetic acid, and carbonic acid gas. This gas has a tendency to fly off, which is opposed by the gluten ; but the latter giving way, becomes extended like a membrane, and forms numberless small cavities, which impart to the bread lightness and a white color, and prevent it from being close or heavy. Hence it follows, first, that in panification, too much care cannot be taken to mix the barm well with the paste ; for whenever they are not intimately mixed, the bread will be necessarily heavy : Secondly, that the dough will be so much the longer in rising, and be more capable of rising, and the bread will be so much the whiter and lighter, as the flour contains more gluten ; bakers are well aware of this, and therefore, when they would judge whether flour is good or bad, they make it into dough, which they extend by pulling it in contrary directions, and the longer it can be drawn, the better the flour is ; it is for this reason that wheaten flour, independently of its being more nutritive, is preferred to the flour of the other cereal grains : Thirdly, that by kneading either pure starch, or starch that is mixed with parenchyma, such as the flour of manioc (an American shrub, from the root of which a kind of bread is made called cassavi), a mass will result which will never rise, even by the addition of matters fit for developing fermentation, and which will make only a very close heavy bread.

We may now notice the mode of preparing bread as practised by the London bakers. A sack of flour being sifted into the kneading trough, to make it lie loose ; six pounds of salt, and two pounds of alum, are separately dissolved in hot water, and the whole (in the quantity of a pail-full), being cooled to about 90° Fahrenheit, is mixed with two quarts of yeast. When this mixture has been well stirred, it is strained through a cloth or sieve, and is then poured into a cavity made in the flour. The whole is now mixed up into a dough, and a small quantity of flour being sprinkled over it, it is covered up with cloths, and the trough-lid is shut down, the better to retain the heat. The fermentation now goes on, and the mass becomes enlarged in bulk. In the course of two or three hours, another pail-

ful. of warm water is well mixed with the sponge, and it is again covered up for about four hours. At the end of this time, it is to be kneaded for more than an hour, with three pails full of warm water. It is now returned to the trough in pieces, sprinkled with dry flour, and at the end of four hours more, it is again kneaded for half an hour, and divided into loaves.

The most wholesome bread that has yet been made is decidedly the most economical. It is made of wheat-flour, mealy potatoes, the common culinary salt, and water. The component parts of the culinary salt are used separately, viz. soda and muriatic acid, in the following manner: first rub four drachms of carbonate of soda, reduced to a fine powder, with six pounds of flour, then, with six pounds of the pulp of steamed or boiled potatoes, mix three drachms of muriatic acid, diluted with a pint of water: when well blended add the flour with the carbonate of soda, and as much water as may be necessary to form it into a proper consistence; then knead it for about three minutes, form it into a loaf, and put it within the heat of the fire, covered with a wet cloth, for an hour, when it will be fit to put into the oven. The acid and soda, uniting in the mass, form the culinary salt, and during the union a considerable quantity of fixed air is disengaged, producing the good effects of fermentation without any of its bad. This process continues during the time the mass is before the fire; and, in order to prevent the surface from becoming so dry as to prevent the expansion of the loaf, it is necessary to cover it with a wet cloth. A greater quantity of the carbonate of soda being employed than is necessary to neutralise the acid, the bread may be considered much more wholesome than if common salt had been employed; the excess of the carbonate of soda acts by correcting acid matter in the stomach, and thus promoting digestion. For invalids whose stomachs do not properly digest the food they take, and for weakly children, this is of great importance. If, however, any person should object to an excess of soda, which certainly renders the bread darker, the same quantity of muriatic acid may be employed.

The bread thus made, notwithstanding the great proportion of potatoes, is more nutritious than the fermented bread of bakers, on account of the saccharine matter, and the whole of the gelatine of the flour, being preserved. This is proved by the strong jelly it affords on boiling it in water. Bread prepared in this manner has now kept perfectly sweet and good a fortnight, and will, no doubt, keep good many months.

French bread is usually considered as a desideratum at the tables of the opulent, and as some part of the process pursued by our Gallic neighbours might with advantage be adopted by the English baker, we furnish our readers with the most approved mode of bread-making in Paris.

The ingredients of their best bread are wheaten flour, water, yeast, and salt. 150 lbs. of flour require about eighty-five pints of water, three pints of yeast, and a proportion of salt which varies considerably according to the fancy of the baker, and the degree of dryness which is to be given to the bread in the oven. The manufacture

commences by diluting the yeast with about an equal quantity of warm water, and then stirring in one pound of flour for every pint of liquor. The whole being well incorporated, it is put into a wooden bowl, and set in a warm place for about seven hours, in order to ferment. At the end of this period, the mass (our English bakers call it sponge) is put into a large wooden trough, and mixed with one-seventh of the whole quantity of flour, the whole of the salt, and with water in the proportion of one pint to two pounds of flour. The dough is now brought into a warm situation, and allowed to remain quiet for four hours, that the fermentation may be established throughout the whole. The salt somewhat retards the progress of this action, but at the same time has the advantage of rendering it more gentle and uniform. The next step is to mingle two-sevenths of the flour, and three-fourths of its weight of water, with the dough, in the same manner as before; after which it is to be allowed two hours to ferment. Now commences the kneading and hard manual labor of the process, during which the remaining four-sevenths of the flour, and half as many pints of water as there are pounds of flour, are to be thoroughly mingled with the fermented dough. At first the mass is very adhesive and clings to the fingers, but it becomes less so the longer the kneading is continued; and when the hand on being withdrawn leaves its perfect impression in the dough, none of it adhering to the fingers, this laborious part of the business is completed. The dough is now immediately divided by weight into loaf-pieces, each of which is once more separately kneaded, and then made up into the proper form. The loaves as they are made are placed on a wooden table, and piled on each other two tiers high, and covered with a blanket to promote the last rising or fermentation, which soon commences, and is judged to have proceeded sufficiently far when a somewhat penetrating acidulous odor of carbonic acid is perceived. The oven is in the meantime heated, and when the temperature is such that a little flour spread at its mouth is browned, but not burnt, the loaves are deposited within, the mouth is closed up with an iron door, and at the proper time (varying according to the size of the loaves) the bread is withdrawn, is replaced on the table, and again covered with a blanket, in order to cool as slowly as possible; the ashes and adhering flour are then removed with a brush, and the bread is ready for sale.

Rice will serve the purpose of making very good bread, and the method practised in Carolina is as follows:—the grain is first washed by putting it in a vessel and pouring water upon it, then stirring it, and changing the water until it is sufficiently cleansed. The water is then poured off, and the rice placed in an inclined position to drain. After being sufficiently drained, it is put, while damp, for the greater facility of pulverisation, into a mortar, and beaten to powder. It is then completely dried, and passed through a common kitchen hair-sieve. The rice flour, thus obtained, is kneaded with a small proportion of Indian corn-meal, and boiled into a thickish consistence; or it is sometimes mixed with boiled potatoes, and a small quantity of leaven

and salt is added to the mass. When the fermentation has been sufficiently excited, the dough is put into pans and placed in an oven to be baked. By this process, a light wholesome bread is made, which is not only pleasing to the eye, but agreeable to the taste.

M. Parmentier obtained well fermented bread, of a good color and taste, from a mixture of raw potatoe pulp, with mealy wheat, or potatoe-meal, with the addition of yeast and salt. Upon the whole he recommends, after various trials, the mixture of potatoes, in times of scarcity, with the flour of wheat, instead of employing rye, barley, or oats, which has frequently been done. When grain is altogether wanting, he recommends the use of bread made from a mixture of the viscid powder of potatoes and their pulp, fermented with leaven or honey. The meal of this root, diluted with hot water, acquires a tenacious and gluey consistence. This meal, however, gives a gray color to bread made by mixing it with the flour of wheat; but a mixture of the pulp of potatoes with the flour of wheat, does not produce brown-colored bread. M. Parmentier made bread very much resembling that of wheat, by mixing four ounces of amylaceous powder of potatoes, one dram of mucilage extracted from barley, one dram of the bran of rye, $1\frac{1}{2}$ dram of glutinous matter dried and powdered. M. Parmentier also recommends the use of the horse-chestnut for the purpose of making wholesome bread. With this view he advises taking off the skin, and pressing out the juice, and reducing the fruit into a paste, which being diluted with water, and strained through a sieve, will yield a milky-colored liquor, that, on being left to stand, deposits a fine powder. This powder, when dried, has neither smell nor taste, and is very fit for aliment; the mass from which it is procured retaining the bitterness of the fruit. The roots of the briony, he says, treated in the same manner, yield a similar white powder. By the same treatment, fine, white, insipid, inodorous powder may be procured from the roots of the iris, gladiolus, ranunculus, arum, dracunculus, mandragora, colchicum, filipendula, and helleborus, plants which grow spontaneously, and in great abundance.

To preserve yeast through the winter, it may be beat up with a whisk until it appears thin and even; then spread it in thin coats upon plates, coating each over again as they dry, until half an inch in thickness, when they may be taken off the plates, broken into small pieces, and kept for use in bottles, closely stopped.

If there be a cheese-press or screw-press at hand, the yeast may be preserved by a simpler method. Fill a canvas bag with the yeast, and submit it to the action of the press, which will squeeze out all the moisture, when the residue may be well packed in paper, so as to keep it from the air, and from moisture. The following mode of making yeast is both easy and expeditious:—Boil one pound of good flour, a quarter of a pound of brown sugar, and a little salt, in two gallons of water for an hour. When milk-warm, bottle it, and cork it close. It will be fit for use in twenty-four hours. One pint of this will make eighteen pounds of bread.

The mode of ascertaining the temperature of the oven, prior to the introduction of the dough, is merely to observe whether the soot burns from the side of the oven most distant from the fire, and when that is the case, the bread will be baked in the most advantageous way. This plan, however, is liable to many objections, and the writer of the present article is preparing a simple apparatus which will mark with precision the precise temperature of the oven without opening the door. This, however, will be described under the article OVEN.

One of the principal objections to the baking of animal food, arises from the confined vapor which forms in the nearly close chamber of the oven. To prevent the mephitic vapor, which is thus imprisoned, from communicating an unpleasant savor to the meat, it has been common to perforate the oven, and as such to ensure a current of air. A complete apparatus for roasting, valuable in an economical point of view, may not unaptly find a place under this head.

This is principally effected by casting the heat entirely upon the object roasting, instead of sending three-fourths of the heat up a capacious chimney, and expending the greatest part of the remainder upon the cook, and the walls and furniture of the kitchen.

The roaster above alluded to, is made of sheet iron, of the strength of about one pound to the square foot. Its form is that of a parallelopipedon, about twenty-five inches high, twenty-two long, and eighteen in breadth. The fire is put under it, but one course of bricks is placed immediately over the fire, and above this a cavity of five inches deep, between the brick roof and the oven bottom. The flame of the fire passes a little to the right and left, and rises perpendicularly up the sides of the roaster, freely communicating with the top of the same. By this means the flame and hot vapor will be hottest at the top of the oven, because of its greater levity, and its not being allowed to escape at this point, according to the common practice. After the hot vapor has bestowed its heat on the superior part, it now descends and enters on each side the cavity under the oven, whence it passes up the back of the same, which back forms one side of the smoke chimney. This arrangement is sufficient for distributing all the disposable heat equally on every side of the roaster. We shall next point out the contrivance for disposing of the smell above alluded to:—The door of the oven is cased with wood a piece of thick paper steeped in a solution of alum, and smeared with clay, being placed between the wood and the iron, to prevent the wood from being charred. The door extends below the bottom of the oven about three inches. This, when the door is open, exposes a plate three inches deep, and the width of the oven, and which constitutes the front of the cavity under the oven. At one side of this plate is a hole at the entrance of the tube, which extends to the other end of the cavity, where it is bent, and returns on the other side of the cavity, and opens into another cavity, formed by a double plate, which constitutes the iron part of the door. The first entrance of this tube corresponds with

an opening at the bottom of the door, so that when the door is shut, cold air can enter the tube. In its passage it becomes heated, and then enters the oven at the top, from the cavity in the door. It now passes over the meat, and escapes through a tube in the back plate, which extends so high as to reach above the smoke damper. By this means the roaster is constantly cleared of any disagreeable vapor, by a force equal to the draft of the chimney.

Loaves are heaviest when first taken out of the oven; they gradually lose part of their weight, at least if not kept in a damp place, or wrapt round with a wet cloth. Thus Mr. Tillet found that a loaf of four pounds, after being kept for a week, wanted $\frac{3}{125}$, or nearly $\frac{1}{15}$ of its natural weight.

When bread is newly taken out of the oven, it has a peculiar, and rather pleasant smell, which it loses by keeping, unless its moisture be preserved by wrapping it round with a wet cloth; as it does also the peculiar taste by which new bread is distinguished. This shows us that the bread undergoes chemical changes; but what these changes are, or what the peculiar substance is to which the odor of bread is owing, is not known.

The laws which relate to the manufacture of bread underwent an entire alteration in the year 1822, and by an act passed 3 George IV. they are allowed to sell bread by weight in loaves of any given number of pounds avoirdupois, without reference to the quarter or half quarter, as heretofore. They are, however, to be furnished with weights and scales, placed in such a situation, that the purchaser may ascertain for himself the weight of the loaf purchased.

BREAD, EARTH. In the German Ephemerides for 1764 we have the following account of a kind of bread made of earth. In the lordship of Moscow, in the Upper Lusatia, a sort of white earth is found, of which the poor, urged by the calamities of the wars which raged in those parts, made bread. It is taken out of a hill where they formerly worked at salt-petre. When the sun has somewhat warmed this earth it cracks, and small white globules proceed from it as meal; it does not ferment alone, but only when mixed with meal. Mr. Sarlitz, a Saxon gentleman, informed us that he has seen persons who in a great measure lived upon it for some time. He assures us that he procured bread to be made of this earth alone, and of different mixtures of earth and meals; and that he even kept some of this bread by him upwards of six years: he further says, a Spaniard told him that this earth is also found near Girona in Catalonia.

BREAD FRUIT. See **ATROCARPUS**.

BREADTH, } Ang.-Sax. bræd, brad,
BREADTH'LESS, } broad, from the Goth. *brads*.
Formerly breadth was written brede. Wicliffe writes it breed, from the verb bradan, to broaden, to expand, to dilate; the measure of any plain superficies from side to side.

— And whan this Troilus,
It sawe he gan to taken of it hede,
Avising of the length and brede.

Chaucer's Troilus and Cresside.

Within the temple of mighty Mars the Rede,
All painted was the wall, in length and brede,
Like to the estres of the grisly place
That highte the gret temple of Mars in Trace,
In thilke colde and frosty region,
Ther as Mars hath his sovverene mansion.

Chaucer's Canterbury Tales.

There is, in Ticinum, a church that hath windows only from above; it is in length an hundred feet, in breadth twenty, and in height near fifty; having a door in the midst. *Bacon.*

The river Ganges, according unto latter relation, if not in length, yet in breadth and depth, may excel it. *Brown.*

Then all approach the slain with vast surprise,
Admire on what a breadth of earth he lies. *Dryden.*

In our Gothic cathedrals, the narrowness of the arch makes it rise in height; the lowness opens it in breadth. *Addison.*

From Cyrene to the ocean, the coast of Africa extends above fifteen hundred miles; yet so closely is it pressed between the Mediterranean and the Sahara, or Sandy Desert, that its breadth seldom exceeds four-score or an hundred miles. *Gibbon.*

The term of latitude is *breadthless* line.

More's Song of the Soul.

BREAK', v. & n. }
BREAK'ER, } The three principal significations attached to this word,
BREAK'ING, }
BREAK'FAST, v. & n. } are distinctly marked
BREAK'NECK, n. & adj. } by the synonymous terms in other languages, from which it may have been derived. These significations are, To fracture, to change, and to manage. Thus, to part by force, to rive, split, or burst asunder, to crush, to ruin; we refer to the Goth. *breka*, Heb. *berek*, Arabic and Persian *brugā*, Eolian *βρηγγω*, Teut. *brechen*, Belgic *brecken*, Ang.-Sax. *brecan*, Swed. *braka*, Isl. *braka*, Irish *bracam*, Welsh *brigu*, Arm. *brica*, *frica*, Lat. *frago*, *frango*. The class of words which illustrate the second meaning; namely to change, to assume a different form or appearance, to falsify, is the following: Goth. *briga*, *bręda*; Ang.-Sax. *brędan*, Swed. *bręda tru*, to break faith; Scot. *break*, to deceive; Isl. *bręda bit*, to change color or countenance. The third sense; namely, to accustom, to habituate, to tame, is marked by the Goth. *braka*, Ang.-Sax. *brecan*, Teut. *brancha*, *brechen*.

The Encyclopædia Metropolitana, has happily distinguished many of the shades of metaphorical and literal application of which this word is susceptible; concluding that it is of 'most universal application to any separation, particularly when made with suddenness, violence or injury.' The following is the catalogue of meanings annexed to a somewhat meagre exhibition of etymological lore:

To make or cause a rupture or breach; a disruption, or breaking apart; an eruption or breaking into; an irruption or breaking in.

To separate, (Met.), to disjoin, to dispart, to force apart; to dis sever, to interrupt, to intercept.

To break down; to suppress, to subdue, to subject, to crush, to tame, to overpower, to bring or reduce to obedience, to poverty, to decay.

To break, or infringe, to violate; implying deceit. Adultery in old writers is called spouse-breach.

To break one's mind, is to break it open; to open it, to disclose it.

To break the fast, or to breakfast: is to separate the times of fasting; to break in upon fasting, interrupting its progress by a termination.

To break, is to effect a change, either by violence, by insinuation, by a single act, or by a series of acts; by power or by subtlety, and the change may be simple difference, or complete destruction.

Right as the hunter, in the regne of Trace,
That standeth at a gappe with a spere,
Whan hunted is the lion or the here,
And hereth him come, rushing in the greves,
And breking bothe the boughes and the leves,
And thinketh, there cometh my mortal enemy;
Withouten faile, he must be dedd or I;
For eyther I mote sleu him at the gappe,
Or he mote sleu me, if that me mishappe.

Chaucer's Canterbury Tales.

To all which cruell tyranny, they say,
He is provokt, and stird up, day and night
By his bad wife that hight Adicie,
Who counsels him, through confidence of might,
To breake all bonds of law and rules of right.

Spenser.

What boots it to *break* a colt, and to let him straight
run loose at random?

Id.

Why then thou can'st not *break* her to the lute.
Why, no; for she hath *broke* the lute to me.

Shakespeare.

Lovers *break* not hours,
Unless it be to come before their time. *Id.*
Pardon this fault, and by my soul I swear,
I never more will *break* an oath with thee. *Id.*
Break their talk, mistress Quickly; my kinsman
shall speak for himself. *Id.*

O father abbot!

An old man *broken* with the storms of state,
Is come to lay his weary bones among ye;
Give him a little earth for charity. *Id.*

—— I must

Forsake the court; to do't, or no, is certain
To me a *breakneck*. *Id.*

So fed before he's *broke*, he'll bear
Too great a stomach patiently to feel
The lashing whip, or chew the curbing steel.

May.

Did not our worthies of the house,
Before they *broke* the peace, *break* vows?

Hudibras.

When any new thing shall be propounded, no counsellor should suddenly deliver any positive opinion, but only hear it, and, at the most, but to *break* it, at first, that it may be the better understood at the next meeting.

Bacon.

Upon the *breaking* and shivering of a great state,
you may be sure to have wars. *Id.*

The *breaking* of that parliament,
Broke him; as that dishonest victory,
At Chæronea, fatal to liberty,
Killed with report that old man eloquent.

Milton.

—— As when a scout
Through dark and desert ways with peril gone
All night, at last, by *break* of cheerful dawn,
Obtains the brow of some high-climbing hill,
Which to his eye discovers unaware
The goodly prospect of some foreign land. *Id.*

Your only way with me to *break*
Your mind is *breaking* of your neck,
For as when merchants *break*, o'erthrown,
Like nine-pins they strike others down,
So that would *break* my heart, which done
My tempting fortune is your own.

Butler's Hudibras.

Unhappy man! to *break* the pious laws
Of nature, pleading in his children's cause. *Dryden.*

I, who much desired to know
Of whence she was, yet fearful how to *break*,
My mind, adventured humbly thus to speak. *Id.*

Think not my sense of virtue is so small;
I'll rather leap down first, and *break* your fall. *Id.*

She held my hand, the destined blow to *break*,
Then from her rosy lips began to speak. *Id.*

As soon as Phœbus' rays inspect us,
First, Sir, I read, and then I *breakfast*. *Prior.*

I'll brave her to her face;
I'll give my anger its free course against her:
Thou shalt see, Phœnix, how I'll *break* her pride. *Philips.*

And now, as near approaching as the sound
Of human voice the listening ear may wound,
Amidst the rocks he hears a hollow roar,
Of murmuring surges *breaking* on the shore.

Pope's Odyssey.

Laws are like cobwebs, which may catch small
flies, but let wasps and hornets *break* through. *Swift.*

Adieu, adieu! my native shore
Fades o'er the waters blue;
The night-winds sigh, the *breakers* roar,
And shrieks the wild seamew.
Yon sun that sets upon the sea,
We follow in his fight;
Farewell a while to him and thee,
My native land—good night! *Byron.*

BREAKERS, in maritime affairs, are distinguished both by their appearance and sound, as they cover that part of the sea with a perpetual foam, and produce a hoarse and terrible roaring, very different from what the waves usually have in a deeper bottom. When a ship is unhappily driven among breakers, it is hardly possible to save her, as every billow that heaves her upward serves to dash her down with additional force when it breaks over the rocks or sands beneath it.

BREAKING OF HORSES. See MENAGE.

BREAK-WATER, see CHERBOURG and PLYMOUTH.

BREAM', *n. s.* Swed. *bressem*, Belgic *braessem*, Teut. *brachsem*, *bresm*, Fr. *breme*, barbarous Latin, *brama*, *abramis*. Bright or brightsome seems to have been the meaning of the Gothic. A fish of the carp kind.

A broad *bream*, to please some curious taste,
While yet alive in boiling water cast,
Vexed with unwonted heat, boils, flings about.

Waller.

BREAM, in ichthyology, the cyprinus brama of Linnæus. See CYPRINUS.

BREAM, to burn off the filth, such as grass, ooze, shells, or sea-weed, from a ship's bottom, that has gathered to it in a voyage, or by lying long in a harbour. It is performed by holding kindled furze, faggots, or the like, to the bottom, so that the flame incorporating with the pitch, sulphur, &c. that had formerly covered it, immediately loosens and throws off whatever filth may have adhered to the planks. After this, the bottom is covered anew with a composition of sul-

plur, tallow, &c. which not only makes it smooth and slippery, so as to divide the fluid more readily, but also poisons and destroys those worms which eat through the planks in the course of a voyage. Breaming may be performed either when the ship lies a-ground after the tide has ebbed from her, or by docking, or by careening.

BREAST, *v.* & *n.*

BREAST-HIGH, } Goth. *bríost*, Swed. *bröst*, Tent. *bruste*, Bel. *borst*, Ang.-Sax. *breost*,
BREAST-PLATE, } Per. *bār*. The thorax,
BREAST-LAP, } the heart. To breast is
BREAST-BONE, } to oppose the breast to
BREAST-KNOT, } anything; to face, to
BREAST-WORK, }

front. Another term for bosom, especially that of the female yielding nourishment to her offspring. It is metaphorically applied to the mind; to the heart and conscience; to the seat of the passions; sometimes to the lungs, in the case of a singer.

They pluck the fatherless from the breast.

Job, xxiv. 9.

Therewith the fire of jalousie, up sterre
Within his *breast*, and hent him by the herte
So woody, that he like was (to behold)
The box-tree, or the ashen dead and cold.

Chaucer's Canterbury Tales.

For though thin husband armed be in maille,
The arrowes of thy crabbed eloquence
Shall pierce his *breast*, and eke his aventaille:
In jalousie, I rede eke, thou him binde,
And thou shalt make him crouch as doth a quaille.

Id.

Hire gilded heres with a goldin threde
Ibunden were, untressed as she laie:
And nakid from the *breast* unto the hede
Men might her see. *Id. Assemblée of Fowles.*

By which she well perceiving what was done,
Gan teare her hayre, and all her garments rent,
And beat her *breast*, and piteously herself torment.

Spenser.

The river itself gave way unto her, so that she was
straight *breast-high*.

Sidney.

What stronger *breastplate* than a heart untainted?
Thrice is he armed, that hath his quarrel just.

Shakspeare.

The threaden sails

Draw the huge bottoms through the furrowed sea,
Breasting the lofty surge. *Id. Henry V.*

'Gainst shield, helm, *breastplate*, and, instead of
those,
Five sharp smooth stones from the next brook he
chose. *Cowley.*

Margarita first possessed,

If I remember well, my *breast*.

Id.

Sir John Astley cast up *breastworks*, and made a
redoubt for the defence of his men. *Clarendon.*

I, not by wants, or fears, or age oppress,
Stem the wild torrent with a dauntless *breast*.

Dryden.

Needless was written law, where, none oppress,
The law of man was written in his *breast*. *Id. Ovid.*

Lay madam Partlet basking in the sun,
Breasthigh in sand. *Id. Fables.*

No traitress! angry Love replies,
She's hid somewhere about thy *breast*;

A place nor God nor man denies

For Venus' dove the proper nest. *Prior.*

Soft on her fragrant *breast* the babe she laid
Flushed to repose, and with a smile surveyed.

Pope's Iliad.

The belly shall be eminent, by shadowing the
flank, and under the *breastbone*. *Peacham.*

This venerable champion will come into the field,
armed only with a pocket-pistol, before his old rusty
breastplate could be scoured, and his cracked head-
piece mended. *Swift.*

Our ladies have still faces, and our men hearts;
why may we not hope for the same achievements
from the influence of this *breast-knot*? *A dissim's Frech.*

The charmer's opening eye kind hope reveals,
Kind hope her consort's *breast* enlivening feels.

Savage.

Flame from one *breast*, and thence on, Britain shine,
What love, what praise, O Walpole! then is thine.

Id. Epistles.

The hardy Swiss

Breasts the keen air, and carols as he goes.

Goldsmith.

His understanding 'scapes the common cloud
Of fumes arising from a boiling *breast*.

Young's Virtue's Apology.

Thou bitter pledge! thou mournful token!

Though painful, welcome to my *breast*!

Still, still, preserve that love unbroken,

Or break the heart to which thou'rt prest! *Byron.*

BREASTS, MAMMÆ, in anatomy. See ANA-
TOMY, Index.

BREAST, SMITING THE, is an expression of
penitence. In the Romish church, the priest
beats his breast in rehearsing the general confes-
sion at the beginning of the mass.

BREAST-HOOKS, in ship building, are thick
pieces of timber incurvated into the form of
knees. They are placed at different heights
directly across the stem, so as to unite it with
the bows on each side. The breast-hooks are
strongly connected to the stem and hawse-pieces
by tree-nails, and by bolts driven from without
through the planks and hawse-pieces, and the
whole thickness of the breast-hooks, upon whose
inside those bolts are forelocked or clinched
upon rings. They are usually about one third
thicker, and twice as long, as the knees of the
decks they support.

BREAST-PAIN, in the menage, called by
the Italians *grandezza di petto*, is a distemper
in horses proceeding from superfluity of blood
and other gross humors, which, being dissolved
by some extreme and disorderly heat, resort
downward to the breast, and pain them extremely.
The signs of the breast-pain are, a stiff, stagger-
ing, and weak going with his fore legs, besides,
that he can hardly, if at all, bow his head to the
ground.

BREAST-PLATE, in Jewish antiquity, a part of
the sacerdotal vestments anciently worn by the
high priest. It was a folded piece of the same
rich embroidered stuff of which the ephod was
made, set with twelve precious stones, on each
of which was engraven the name of one of the
tribes. They were set in four rows, three in
each row; and were divided from each other by
the little golden squares or partitions in which
they were set. This breast-plate was fastened at
the four corners; those on the top to each
shoulder by a golden hook or ring at the end of
a wreathed chain; and those below, to the girdle
of the ephod, by two strings or ribbons, which
had, likewise, two rings and hooks. This orna-
ment was never to be severed from the priestly
garment; and it was called the memorial, to put

the high-priest in mind how dear those tribes ought to be to him, whose names he wore on his breast. It is also called the breast-plate of judgment, because it had the divine oracle of Urim and Thummim annexed to it. See URIM and THUMMIM.

BREAST-PLATE, in the menage, the strap of leather that runs from one side of the saddle to the other, over the horse's breast, in order to keep the saddle tight, and hinder it from sliding backwards.

BREAST-PLATES, for armour, are said to have been, originally, made of hides, or hemp twisted into small cords, but afterwards of brass, iron, or other metals; which were sometimes so exquisitely hardened, as to be proof against the greatest force. See ARMOUR.

BREAST-WORK OF A SHIP, a sort of ballustrade or fence, composed of rails or mouldings, and often decorated with sculpture; it terminates the quarter-deck and poop at the fore-ends, and encloses the fore-castle both before and behind.

BREATH ^E , v.	} <i>Αηθ</i> ; Goth. and Teut. <i>athem</i> ; Ang.-Sax. <i>orath</i> , <i>brath</i> ; <i>athian</i> , <i>brethian</i> ; air of life; air drawn in and thrown out of the lungs; to draw breath; to rest. Goth. <i>brydda</i> ; Swed. <i>bradu</i> ; Welch <i>brathu</i> ; to puncture; to pierce; to open a vein; to give vent. To breathe, then, is to inspire or inhale; to expire or exhale; to take breath; to give breath: to send forth; to emit; to eject: to utter privately: an odor; a perfume; a vow; a prayer; relaxation.
BREATH ^E , n.	
BREATH ^E R, n.	
BREATH ^E ING, n.	
BREATH ^E FUL, a.	
BREATH ^E LESS, a.	
BREATH ^E LESSNESS, n.	
BREATH ^E INGTIME, n.	

————— and eke, hire *breth* I trowe
 Surmounteth all odours that er I founde
 In swetenesse. *Chaucer's Court of Love.*

She colde was; and withouten sentement,
 For ought he wote, for *brethe* yet felt he none,
 And this was him a pregnant argument
 That she was forth out of this world agone.
Id. Troilus and Creseide.

The *breath* came slowly thence, unwilling leaving
 So sweet a lodge; but when she once intended
 To feast the air with words, the heart deceiving,
 More fast it thronged so to be expended;
 And at each word a hundred loves attended,
 Playing i' th' *breath*, more sweete than is that firing,
 Where that Arabian onely bird, expiring
 Lives by her death, by losse of *breath* more fresh
 respiring. *Spenser.*

At other times he casts to sue the chace
 Of swift wild beasts, or run on foot a race,
 To' enlarge his *breath*, large *breath* in arms most
 needful,
 Or else by wrestling, to wax strong and heedful. *Id.*

He presently followed the victory so hot upon the
 Scots, that he suffered them not to *breathe*, or gather
 themselves together again. *Id. State of Ireland.*

Thy greyhounds are as swift as *breathed* stags.
Shakespeare.

I remember when the fight was done,
 When I was dry with rage and extreme toil,
Breathless, and faint, leaning upon my sword,
 Came there a certain lord. *Id. Henry IV.*

Let him *breathe*, between the heavens and earth,
 A private man in Athens. *Id. Antony and Cleopatra.*

She shows a body rather than a life,
 A statue rather than a *breather*. *Id. ib.*

Kneeling before this ruin of sweet life,
 And *breathing* to this *breathless* excellence
 The incense of a vow, a holy vow. *Id. King John.*
 Give me some *breath*, some little pause, dear lord,
 Before I positively speak. *Id. Richard III.*

As bodily respiration without intermission or impediment doth concur with all our actions, so may that *breathing* of soul which preserveth our spiritual life, and ventilateth that holy frame within us, well conspire with all other occupations. *Barrow.*

Rest, that gives all men life, gave him his death,
 And too much *breathing* put him out of *breath*.
Milton.

His altar *breathes*
 Ambrosial odours, and ambrosial flowers.
Id. Paradise Lost.

Me thinks I heare the soldiers and busie officers
 when they were rolling that other weighty stone (for
 such we probably conceive) to the mouth of the
 vault with much toyle and sweat, and *breathlessness*,
 how they bragged of the surenesse of the place, and
 unremovableness of that load.

Hall. On the Resurrection.
 I would be young, be handsome, be beloved,
 Could I but *breathe* myself into Adrastus. *Dryden.*
 You menace me, and court me, in a *breath*;
 Your Cupid looks as dreadfully as death. *Id.*
 Spaniard, take *breath*, some respite I'll afford;
 My cause is more advantage than your sword. *Id.*
 No man has more contempt than I of *breath*,
 But whence hast thou the power to give me death? *Id.*

The ready cure to cool the raging pain,
 Is underneath the foot to *breathe* a vein.
Id. Virgil.
 While to high heaven his pious *breathings* turned,
 Weeping he hoped, and sacrificing mourned. *Prior.*
 The artful youth proceed to form the quire;
 They *breathe* the flute, or strike the vocal wire. *Id.*
 Where he vital *breathes* there must be joy.
Thomson.

Delightful task! to rear the tender thought,
 To teach the young idea how to shoot;
 To pour the fresh instruction o'er the mind;
 To *breathe* the' enlivening spirit, and to fix
 The generous purpose in the glowing breast. *Id.*
 Here, by the stream, if I the night outwear,
 Thus spent already, how shall nature bear
 The dews descending, and nocturnal air;
 Or chilly vapours, *breathing* from the flood
 When morning rises. *Pope's Odyssey.*
 Formed to make pleaders laugh, his nonsense
 thunders,
 And on low juries *breathes* contagious blunders.
Savage's Miscellanies.

Nature is dumb on this important point,
 Or Hope precarious in low whisper *breathes*.
Young's Christian's Triumph.

He ought, says this great political doctor (Machia-
 vel), to consider peace only as a *breathing-time*, which
 gives him leisure to contrive, and furnishes ability to
 execute military plans. *Burke.*

The fourth day came, but not a *breath* of air,
 And ocean slumbered like an unweaned child.
Byron.

But still her lips refused to send—'Farewell!'
 For in that word—that fatal word—howe'er
 We promise—hope—believe—there *breathes* despair.
Id. Corsair.

BREBEUF (William de), a French poet, born at Thorigny, in 1618. He was chiefly distinguished by a translation of Lucan, which, though abounding in bombast and false brilliances, was long admired; and procured great promises of advancement to the author, from cardinal Mazarine, who died, however, without fulfilling them. But the best of his works is the *First Book of Lucan Travestied*, which is an ingenious satire upon the great, and upon the meanness and servility of those who submit to flatter them. He is said to have had a fever that lasted about twenty years. He died in 1661, aged forty-three.

BRECCIA, in mineralogy, an Italian term, used to denote such compound stones as are composed of agglutinated fragments of considerable size.

BRECHIN, a town and royal burgh in the county of Forfar, Scotland, situated on the declivity of a hill, which rises from the north bank of the Esk, about eighty-four miles north of Edinburgh. It unites with Aberdeen, Montrose, Aberbrothick, and Inverbervie, in sending one member to the parliament of Great Britain. It has a small manufacture of linen and sail-cloth, a large brewery, and about 6000 inhabitants. It is principally noted in history in connexion with a convent of Culdees. A bishop's see was founded here about the middle of the twelfth century, and endowed by David I. Some remains of the cathedral still appear, and the west end is occupied as a parish church. At a small distance stands one of those singular round towers whose use has so long baffled the conjectures of antiquaries. The towers appear to have been peculiar to North Britain and Ireland: in the latter they are common: in the former but two, we believe, now exist. That at Brechin stood originally detached from other buildings. It is at present joined near the bottom by a low additional aisle to the church, which takes in about a sixth of its circumference. From this aisle there is an entrance into it of modern date, approachable by a few steps, for the use of the ringers; two handsome bells were formerly placed in it, which were approached by means of six ladders placed on wooden semicircular floors; but the bells have lately given place to an excellent town clock. The height from the ground to the roof is eighty feet; the inner diameter, within a few feet of the bottom, is eight feet; the thickness of the wall at that part, seven feet two inches; so that the whole diameter is fifteen feet two inches; the circumference very near forty-eight feet; the inner diameter at top is eight feet seven inches; the thickness of the walls four feet six inches; the circumference thirty-eight feet eight inches; which proportion gives the building an elegant appearance; the top is roofed with an octagonal spire twenty-three feet high, which makes the whole 103. The castle of Brechin was built on an eminence, a little south of this town; it underwent a long siege in 1303; and was gallantly defended against the English under Edward III.; and, notwithstanding all the efforts of that potent prince, the brave governor, Sir Thomas Maule, ancestor of the present Maule family, of Panmure, held out this small fortress for twenty days,

till he was slain by a stone from an engine on the 20th of August, when the place was instantly surrendered. Brechin is also remarkable for a battle fought near it, in the rebellion of 1452, on account of the murder of the earl of Douglas. The victory fell to the royalists under the earl of Huntly.

BRECKNOCK, the county town and capital of the county of Brecknock (Aber-Honday, Welch,) seated at the confluence of the rivers Honday and Uske, over which there are four bridges. This place consists of three principal irregular streets, in the most spacious of which are the town-hall and the market-place. The collegiate church, founded on the ruins of a Dominican priory, is now falling into decay. Here are three parish churches, four places of worship for dissenters, and some manufactories of cloth, hats, and cotton-stockings. The castle is said to have been built by Bernard de Newmarsh, a favorite of William Rufus, who also encircled the town with walls. It was nearly destroyed in Oliver Cromwell's time. The arsenal, a handsome brick building, stands in that part of the town called the Watton, on the road side, being ninety-nine feet long, thirty-five broad, and two stories high. The tower contains an armoury for 15,000 stands of arms, and 1500 swords, arranged in the manner of the arms at the tower of London. The priory walk is very pleasant. To the east of the town is a lake well stored with fish, called Brecknock Mere. It sends one member to parliament, and is governed by two bailiffs, fifteen aldermen, two chamberlains, two constables, a town-clerk, and other officers. Market days, Wednesday, Friday, and Saturday. It is 171 miles W. N. W. from London. There are several traces of Roman camps in the neighbourhood.

BRECKNOCK, a county of South Wales, is bounded by Radnor on the north, Cardigan and Carmarthen on the west, Hereford and Monmouth on the east, and by Monmouth and Glamorgan on the south. It is about thirty-five miles long, thirty broad, and about 100 in circumference, containing nearly 512,000 acres of land, of which 232,000 acres are in a state of cultivation, and 185,600 acres are waste, unfit for culture. It contains six hundreds, viz. Builth, Crickhowel, Devynnock, Merthyr, Penkelly, and Talgarth; has four market-towns, Brecon, Builth, Crickhowel, and Hay; and sixty-two parishes. This is one of the most mountainous counties of Wales, containing the Vann, or Brecknock-Beecon, reckoned the loftiest mountain in South-Wales. The air in the valleys is always temperate; the soil on the hills stony; but the streams descending thence into the vales, render them fruitful. Its principal rivers are the Wye, which separates it from Radnor, and the Uske, which rises from the Black Mountain on the border of Carmarthenshire, and, flowing through a beautiful valley to the south-east angle, passes the town of Brecon. Its chief productions are copper, lead, iron, corn, cattle, fish, and otter's fur, and manufactories of cloth and stockings. The whole county, indeed, is replete with every article of subsistence, with which the different markets and fairs are well supplied. A canal

from Brecon to Llanelly, eighteen miles long, and nine feet wide, was opened in 1800, and is navigable for barges of twenty-five tons burden. Coal and lime stone are found in large quantities. At Llanelly, and near the borders of Glamorgan, there have been lately established several extensive iron works. The exports are a species of woollen cloth (which is carried to be milled and dyed in England), wool, worsted, stockings, timber, iron, cattle, sheep, pigs, butter and cheese. It returns two members to parliament; one for the county, and one for Brecknock, the county-town.

BREDA, a strong fortified town of the Netherlands, the capital of a lordship of that name in Dutch Brabant. It is of a triangular shape, having a gate at each angle. It lies on the river Merck, near the influx of the Aa, and thus has a good communication with the sea. Its position, in the midst of a marsh, contributes so much to its defence, that the adjoining country can be laid under water by means of sluices which communicate with the river. It has also a castle, constructed by William, prince of Orange, afterwards king of England; the ramparts are lined with trees. The great church is remarkable for its tower, which was burnt down in 1696, but since rebuilt; the height of the spire is 362 feet. The interior contains several monuments of the ancient lords of Breda. The town-house is a noble building. This was formerly a place of considerable commerce, and had extensive cloth manufactories; but there now only remain a few manufactures of carpets, stockings, and hats. There are also several breweries.

Breda suffered severely in the wars of the sixteenth century, between Spain and the Dutch. Before the breaking out of these commotions, the lordship belonged to the family of Nassau-Orange; but in 1567 they were seized by the duke of Alva. The garrison delivered up the town to the states-general in 1577, but it was wrested from them in 1581. Here, in May 1590, prince Maurice of Nassau began that series of operations which ended in the liberation of Holland. He sent into Breda a party of chosen men, concealed in a boat loaded with turf, who admitted the other besiegers, and the town was given up. It was retaken by the Spaniards, under Spinola in 1625, after a close blockade, and a siege of six months. They kept possession of it till 1637, when it was finally retaken by the Dutch. Our Charles II. resided here when invited to the throne of his father, in 1660, and issued a celebrated declaration, to which he adhered as it accorded with his convenience. In 1667 was held at Breda a celebrated congress, which ended in treaties of peace between Charles II. of England on the one side, and Louis XIV. of France, Frederick III. of Denmark, and the states-general on the other. A second congress was summoned here in 1747, but never took place, the negotiations having been removed to Aix-la-Chapelle. In February 1793 the French became masters of the town and fortress, after five days blockade and a slight bombardment, but gave it up on the 4th April of the same year. In September 1794 they made preparations for a second attack, but the place held out till the entire conquest of Holland. In December 1813,

when the prince of Orange had been recalled to Holland, general Bechendorff's corps, of the Russian army, marched in the direction of Breda, and, on the tenth, the French garrison sallied out to make an attack on that force; upon which the loyal burgesses rose en masse, shut the gates, and prevented them again entering the place. It is twenty-two miles S. S. E. of Rotterdam, and forty-eight south of Amsterdam.

BREDA (Alexander Van), an eminent painter of Antwerp, much esteemed for his landscapes, fairs, views of particular scenes in Italy, and varieties of animals and figures.

BREDA (John Van), the son of Alexander, was born at Antwerp in 1683. Having the advantage of the example and directions of his father, he continued with him till he was eighteen years of age. Among the various capital paintings, then in the possession of John De Wit, at Antwerp, Breda fixed upon those of Velvet Brueghel, which he copied with extraordinary success; and was employed for nine years in copying the pictures of several other great masters. After this he went to London with Rysbrach, the sculptor, where he rose into great esteem. After residing some years in England, he returned to Antwerp, loaded with riches, the honorable testimonies of English liberality, as well as of his own merit. In 1746 Louis XV. arriving in that city, purchased four of his pictures. He had as much fire in his composition, and perhaps more genius than Brueghel; his figures are generally well placed, his ground skilfully broken; every small figure has its particular character, and occupies its proper place. In short, he is a painter of such a rank, that the value of his works must always increase. He died in 1750.

BREDE. See BRAID.

BREDEMEYERA, in botany, a genus of plants: class diadelphia, order octandria: cal. three-leaved: cor. papilionaceous; drupe, nut two-celled. One species, *B. floribunda*, a shrub with small, white, paniced flower, native of the Caraccas.

BREECH', v. & n. } Goth. *brek*; a division, a fork; Swedish }
BREECH'ES, n. } *bræk*; Teut. *bruche*;
BREECH'ING, n. } Ang.-Sax. *brac*; Welch *breg*; Irish *bristig*; the division of the legs, the backside, the hinder part. The part broken in two, or divided, as the thighs from the body. Breech is the part, and breeches that which covers it. Goth. *bræken*, *brokes*; Ang.-Sax. *broc*, *bræc*, *bræccæ*; Armoric *braghis*; Irish *brigis*; Scot. *breck*; Welsh *bryccan*; Ital. *bracca*, Lat. *bracca*; Fr. *brayes*. To breech is to put on the breeches. To furnish a tight or close covering for the hinder or lower part of anything, as to breech a gun, breeching for a horse. Breeches are, in modern times, the exclusive prerogative of the superior gender.—*Met.* The emblem of masculine authority; not unfrequently usurped by the gentler sex. But see our first example:

Then the eyes of them both were opened, and they knew that they were naked, and they sewed figge-tree leaves together, and made them breeches.

Bible, (Geneva) Gen. iii

— Next, his white lere

Of cloth of lake fin and clere,

A *brecche* and eke a sherte;

And next his sherte an haketon;

Chaucer's Canterbury Tales.

Thou woldest have me kisse thine old *breech*,

And swere it were a relike of a seint. *Id.*

Petruchio is coming in a new hat, and an old jerkin, and a pair of old *breeches* thrice turned.

Shakspeare's Taming of the Shrew.

Ah! that thy father had been so resolved!—

—That thou might'st still have worn the petticoat,

And ne'er had stolen the *breech* from Lancaster. *Id.*

When the king's pardon was offered by a herald, a lewd boy turned towards him his naked *breech*, and used words suitable to that gesture. *Hayward.*

The storks devour snakes and other serpents; which, when they begin to creep out at their *breeches*, they will presently clap them close to a wall, to keep them in. *Grew's Museum.*

The wife of Xanthus was domineering, as if her fortune and her extraction, had entitled her to the *breeches*. *L'Estrange.*

If the Delphick Sibyls or oracular speeches

(As learned men say), came out of their *breeches*,

Why might not our horses since words are but wind,

Have the spirit of prophecy likewise behind.

Marvell.

But Hudibras gave him a twitch

As quick as lightning in the *breech*,

Just in the place where honour's lodged,

As wise philosophers have judged;

Because a kick in that place more

Hurts honour than deep wounds before.

Butler's Hudibras.

His *breeches* were of rugged woollen,

And had been at the siege of Bullen. *Butler.*

So cannons, when they mount vast pitches,

Are tumbled back upon their *breeches*. *Anonymous.*

Rough satires, sly remarks, ill-natured speeches, are always aimed at poets that wear *breeches*.

Prior.

Give him a single coat to make, he'd do't;

A vest or *breeches*, singly; but the brute

Could ne'er contrive all three to make a suit. *King.*

BREECHES, a garment reaching from the waist to the knees. The Greeks wore their knees and legs bare, but the more barbarous nations of antiquity covered them with vestments, which were called *αλαφριδες*. These vestments were also worn by the Scythians, the Aramaspi, the Amazons, the Phrygians, Syrians, &c. Among the Greeks this garment indicated slavery, and thence foreigners, or slaves brought from other countries, were always represented so clothed by their artists. The nations of the north, as the Dacians, the Parthians, the Sarmatians, &c. usually wore them, as may be seen by the sculptures on the Trajan column. They were also worn by the Gauls; and that part which was under the Roman dominion was called Gallia Braccata from this circumstance. We find mention made of breeches among the ancient Getæ, Sarmatæ, Gauls, Germans, and Britons. They afterwards got footing in Italy; some pretend as early as the time of Augustus; but that emperor's breeches, mentioned by Suetonius, were only swaths tied over his thighs. Breeches, however, were at last received into Italy, and grew so highly in fashion, that it was thought necessary, under Honorius and Arc-

dius, to restrain them by law, and expel the braccari, or breeches-makers, out of the city; it being thought unworthy of a nation that commanded the world to wear the apparel of barbarians.

BREECHINGS, in the sea language, the ropes with which the great guns are lashed to the ships' side; so called, because made to pass round the breech of the gun.

BREED, *v. & n.* } Ang-Sax. brytian, breed-
BREEDER, } dan; Teut. *baeren*, from
BREED'ING, } Goth. *bera*. Sec To BEAR,
BREED'BATE. } To BRING, BROOD, and
BRAT. To occasion, to cause, to produce, generate, bring forth, to increase, to cherish, to bring up, to educate. A breed is a cast, a kind; a subdivision of species; a family, a generation. A hatch, a number produced at once; progeny, offspring. A breeder is that which produces any thing, a prolific female, and one that takes care to raise a peculiar species of any thing. Breedbate, one of those incendiaries in social life that makes, or seizes occasions for quarrelling. Breeding is elliptically used for good-breeding, well-bred, well trained in good society.

— Ah, noble knight! what worthy meede

Can wretched lady, quitt, from woful state,

Yield you in lieu of this your gracious deed?

Your vertue selfe her own reward shall breed,

Even immortal prayse and glory wyde,

Which I your vassall, by your prowess freed,

Shall through the world make to be notifye.

Spenser.

Thereat he roared for exceeding pain,

That to have heard, great horror would have bred.

Fairie Queene.

What hurt ill company, and overmuch liberty,

breedeth in youth. *Ascham's Schoolmaster.*

It was wisely observed by Quintillian, who was an excellent tutor for young gentlemen, that we ourselves, with ill breeding our children, are the authors of their evil nature. *Jer. Taylor.*

Mr. Harding, and the worthiest divine Christendom hath bred for the space of some hundreds of years, were brought up together in the same university. *Hooker.*

Time is the nurse and breeder of all good. *Shakspr.*

I bring you witnesses,

Twice fifteen thousand hearts of England's breed. *Id.*

I am a gentleman of blood and breeding.

Shakspeare's King Lear.

If thou wilt lend this money, lend it not

As to thy friend; for when did friendship take

A breed of barren metal of his friend?

Shakspeare's Merchant of Venice.

Get thee to a nunnery; why would'st thou be a breeder of sinners? *Id. Hamlet.*

Here is the babe, as loathsome as a toad.

Amongst the fairest breeders of our time.

Id. Titus Andronicus.

My son Edgar! had he a hand to write this? a heart and brain to breed it in? *Id. King Lear.*

An honest, willing, kind fellow, as ever servant shall come in house withal; and, I warrant you, no telltale, nor no breedbate.

Id. Merry Wives of Windsor.

Where they most breed and haunt, I have observed. The air is delicate. *Id. Much-h.*

But could youth last, and love still breed;

Had joys no date, and age no need;

Then these delights my mind might move

To live with thee, and be thy love. *Raleigh*

Hail, foreign wonder!
Whom certain these rough shades did never *breed*.
Milton.

Why was my *breeding* ordered and prescribed,
As of a person separate to God,
Designed for great exploits? *Id. Agonistes.*
Whoe'er thou art, whose forward cars are bent
On state affairs, to guide the government;
Hear first what Socrates of old hath said
To the loved youth whom he at Athens *bred*.
Dryden.

Rode fair Ascanius on a fiery steed,
Queen Dido's gift, and of the Tyrian *breed*. *Id.*
Ah wretched me! by fates averse decreed
To bring thee forth with pain, with care to *breed*. *Id.*
None fiercer in Numidia *bred*,
With Carthage were in triumph led. *Roscommon.*
Infectious streams of crowding sins began,
And through the spurious *breed* and guilty nation
ran. *Id.*
She lays them in the sand, where they lie till they
are hatched; sometimes above an hundred at a *breed*.
Grev.

A cousin of his last wife's was proposed; but John
would have no more of her *breed*.
Arbuthnot's History of J. Bull.

Yet, if a friend a night or two should need her,
He'd recommend her as a special *breeder*. *Pope.*
As men of *breeding*, sometimes men of wit,
To avoid great errors, must the less commit. *Id.*
In the choice of swine, choose such to *breed* of as
are of long large bodies. *Mortimer.*

Bred up in grief, can pleasure be our theme?
Our endless anguish does not nature claim?
Reason and sorrow are to us the same. *Prior.*
Lucina, it seems, was *breeding*, as she did nothing
but entertain the company with a discourse upon the
difficulty of reckoning to a day. *Spectator.*
How plain I ken whence love his rise begun,
Sure he was born some bloody butcher's son,
Bred up in shambles; where our younglings slain,
Erst taught him mischief and to sport with pain.
Gay.

BREEDING, in a moral sense, denotes a person's
behaviour in the external offices of social
life. In this sense we say well-bred, ill-bred, a
man of breeding, &c. Good breeding is hard
to define; none can understand the theory but
those who have the practice. Good breeding
amounts to much the same with what is other-
wise called politeness, amongst the ancient Ro-
mans urbanity. It is so nearly allied to virtue,
that it will often lead a man into it; although,
it must be owned, there are too many instances of
its failing to produce this happy effect. Ches-
terfield, with all his good breeding, was a very
bad moralist. Shaftesbury compares the well-
bred man with the real philosopher: both
characters aim at what is excellent, aspire to a
just taste, and keep in view the model of what
is beautiful and becoming. Horace seems to
have united both characters:

Quid verum atque decens curo et rogo, et omnis in
hoc sum.

BREEDING OF FISH. See POND.

BREED OF HORSE. See HORSE.

BREEDING-STONE, in mineralogy, a sort of
mass of pebbles, joined by a sparry cement;
frequent in divers parts of Hertfordshire.

BREEF CARDS, a kind of false cards, either
a little longer or broader than the rest, whereby
they may be felt and distinguished.

BREENBERG (Bartholomew), an excellenc
painter, born at Utrecht in 1620; and best
known by his Christian name Italsed, Barto-
lomeo, he having spent the early part of his life
in Rome. His pictures were held in the highest
estimation. He excelled in landscapes, which
he enriched with historical subjects. The
figures and animals were drawn in a masterly
manner. He also etched from his own designs
a set of twenty-four Views and Landscapes,
ornamented with Ruins. He died in 1660, aged
forty.

BREEZE', } Ang.-Sax. briose; Belgic,
BREE', } brems; Ital. brissio; Welsh,
BRIZE. } bruth; from Goth. bry, brodde,
a point or sting. The gad-fly.

Till that a *brize* a scorned little creature,
Through his fairie hide his angrie sting did threaten
And vent so sore, that all his goodly feature,
And all his plenteous pasture nought him pleased.
Spenser.

Cleopatra,
The *breeze* upon her like a cow in June,
Hoists sail, and flies.

Shakspeare: Antony and Cleopatra.
The learned write, the insect *breese*
Is but the mongrel prince of bees. *Hudibras.*
A fierce loud buzzing *breese*, their stings draw blood,
And drive the cattle gadding through the wood.
Dryden.

BREEZE', } Goth. byr; Dan. bær; Belg.
BREEZY', } breeze; Fr. brise; Ital. brezza;
BREEZELESS. } Port. brizo. A gentle gale; a
light wind; a wafting air, from the verb to bear.

Our general prepared to be in readiness, to take
the first advantage of the coming of a *brize* of winde.
Sir Francis Drake. The World Encompassed.

We find that these hottest regions of the world,
seated under the equinoctial line, or near it, are so
refreshed with a daily gale of easterly wind, which
the Spaniards call *breeze*, that doth ever more blow
stronger in the heat of the day. *Raleigh.*

The torrid zone was by our predecessors held to be
uninhabitable, but by our modern travellers found to
be most temperate, bedewed with frequent rains, and
moistening showers, the *brise* and cooling blasts in
some parts, as Acosta describes, most pleasant and
fertile. *Burton's Anat. Mcl.*

From land a gentle *breeze* arose by night,
Serenely shone the stars, the moon was bright,
And the sea trembled with her silver light.

Dryden.
The seer, while zephyrs curl the swelling deep,
Basks on the *breezy* shore, in grateful sleep,
His oozy limbs. *Pope.*

Gradual sinks the *breeze*
Into a perfect calm; that not a breath
Is heard to quiver through the closing wood.

Thomson.
The *breezy* call of incense-breathing morn,
The swallow twittering from the straw-built shed,
The cock's shrill clarion, or the echoing horn,
No more shall rouse them from their lowly bed.
Gray's Elegy.

The billows on the ocean,
The *breezes* idly roaming,
The clouds uncertain motion,
They are but types of woman. *Burns.*
Embarked, the sail unfurled, the light *breeze* blew—
How much had Conrad's memory to review.
Byron's Corsair.

BREEZE'. Fr. *braise*; Ital. *bragia*. Cinders, burnt coals. See BRASIER.

BREEZE, in brick-making, small ashes and cinders sometimes madeuse of instead of coals, for the burning of bricks. But as this does not so well answer the end, the use of it was prohibited by 12 Geo. I. cap. 35, but allowed by 3 Geo. II. cap. 22, and 10 Geo. III. cap. 49.

BREEZE, a shifting wind that blows from sea or land for certain hours in the day or night; common in Africa and some parts of the East and West Indies. Breezes differ from etesie, or trade winds, as the former are diurnal, or have their periods each day; and the latter are annual, and blow at a distance from land. The sea brèezes rule by day, and the land breezes by night, being constant as the seasons of the year, or course of the sun, on which they seem to depend: not but that they appear sooner or later, stronger or weaker, in some places than in others; and vary the alternative according to the several latitudes, situations, and soils, &c. of the countries where they are found. See WIND.

BREGENTZ, or BERGENTZ, a district and town of Suabia, in Germany, situated at the east end of the lake of Constance, six miles south of Lindau. The whole tract, according to M. Hassel, contains 84,000 inhabitants, exporting a considerable quantity of timber and cattle. To the south is a noted pass into Italy, called Bregentzer Clause. It is also the name of the river on which the town stands. It was taken possession of by a column of the French army, under General Kellerman, in July 1796.

BREGMA, in anatomy, the same with sin-ciput, or the forehead. The bregma consists chiefly of two bones, hence also called bregmatis ossa, or ossa parietalia. It properly denotes the middle and fore part of the head, situated over the forehead, and extending on both sides to the temples. The origin of the word is obscure, and has been much controverted.

BREHAR, one of the Scilly islands, lying thirty miles almost directly west of the Land's End in Cornwall. It is the roughest and most mountainous of them all, and not many years ago there were only two families in it. There are several barrows edged with stone, in which they buried considerable persons in ancient times; besides many monuments of the Druids. Some are of opinion, that this with the rest made but one island, which is the reason why so many antiquities are now found in most of them.

BREHONS were the provincial judges among the ancient Irish, by whom justice was administered, and controversies decided. These sages are by some writers said to have been a distinct tribe, having competent lands allowed them in inheritance; by others to have been hereditary magistrates, attached to various tribes. Their decisions were generally made in the open air, on the tops of hills; where particular spots are frequently called to this day Brehon chairs. In criminal cases the Brehon had the eleventh part of all the fines; which could not but be considerable at a time when murders, rapes, rob-

beries, and the like offences, were only subject to pecuniary commutations. Brehonica leges, or Brehon laws, were the general rules of law observed by the Brehons. Several fragments of the leges Brehonicae are still extant in public and private libraries. The most complete collection is that now or lately belonging to the duke of Chandos; containing twenty-two sheets and a half closely written, full of abbreviated words, and not very legible. By the statute of Kilkenny, made under Edward III., it is enacted that no English subject shall submit to a trial by the Brehon law. Notwithstanding which, many were still under a necessity of submitting to various modifications of it, until the whole kingdom was settled by king James I. Why Spenser and some modern writers should stigmatise these laws as most wicked, because murder was compounded by bribery, we are at a loss to conceive. The principle of pecuniary compensation for all crimes pervading equally the Anglo-Saxon laws, and those of all the German nations: not to mention that at this time enlightened England awards a man only pecuniary damages for the greatest moral injury that can be inflicted on his family.

BREIRACH, a mountain of Aberdeenshire, Scotland, at the south-west extremity of the county, having six springs, called the Wells of Dee, 4000 feet above the level of the ocean; they form themselves into a copious stream, which falls over a precipice; and are thus the sources of the river DEE, which see. Its whole height is about 4220 feet.

BREME'. Goth. *brim*; Ang.-Sax. *brem*. Rage, or fume; cruel, sharp, severe, furious, fierce, stormy.

And anon,
He was ware of Arcite and Palamon,
That foughten breme. *Chaucer's Cant. Tales.*

And when the shining sun laugheth once,
You deemen the spring come at once:
But eft, when you count you freed from fear,
Comes the breme winter, with chamfred brows,
Full of wrinkles and frosty furrows. *Spenser.*

BREMEN, a duchy of Germany, in the kingdom of Hanover, lying between the Weser and the Elbe; of which the former separates it from the duchy of Oldenburg, and the latter from that of Holstein. The air is cold; and the whole country low and flat, but the soil, like that of many of our fenny districts, very rich and productive in corn, hemp, flax, and pasturage. Excellent buck-wheat and sheep-walks are found on the Geestland, or central part of the duchy, which is accounted the least fertile. The manufactures are ropes, linen, and sail-cloth; and there are also a few ship-building yards. It formerly belonged to Sweden, but was afterwards conquered by Denmark, who sold it to the king of Great Britain, as elector of Hanover, in 1716. In winter it is subject to inundations. At Christmas, 1617, some thousands of cattle were lost, and several hundred people; and the country was so covered with water, that it cost immense sums to repair the dykes. The sovereignty is said to have cost the electorate 800,000 rix-dollars.

BREMEN, a large, populous, and strong town, the capital of the preceding duchy, with an archbishop's see. The whole territory belonging to it contains seventy-five square miles, and a population of 48,500 individuals. The river Weser runs through it, and divides it into the old and new town. The harbour is six miles nearer the sea, at a place called *Elsfiet*. On an average, 200 Bremen ships pass through the Sound yearly, and about 900 great and small enter the port from all quarters, yet the annual revenue is not above 100,000 dollars, it is said, or £17,000 sterling. Only boats can approach the town, which is in general well built. The town-house, the exchange, and the cathedral, are the buildings principally worth notice. There is also an academy here, founded in 1529. In September 1739, while the inhabitants were asleep, the powder magazine was fired by lightning; and all the houses were shaken, as if there had been a violent earthquake. This town is governed by its own magistrates, and is divided into quarters, each of which has a burgo-master. The religion is partly Lutheran, and partly Calvinistic, the latter predominating. It has a considerable trade in its own manufacture of cotton and woollen stuffs, sugar, dye-stuffs, &c. with France, England, Spain, and Portugal; and in return imports provisions, with which it supplies Westphalia, and the countries about Hanover. It has also some profitable fisheries, and a trade in blubber. The French took possession of Bremen in 1806, and annexed it to the empire, as the head of the department of the mouths of the Weser, in 1810. It recovered its independence in 1813. It is fifty-four miles south-west of Hamburg, and ninety-five north-west of Brunswick.

BREN',
BRENT',
BREN'ING,
BREN'INGLY. } From Sax. *brennen*, to
burn. Burnt.—Obsolete.

The fires *brenne* upon the auter clere,
While Emelie was thus in her priere.

Chaucer's Canterbury Tales.

And after all this—to sleu me utterly,
Love hath his fiery dart so *brenningly*
Ystiked thurgh my trewe, careful hert,
That shapen was my deth erst than my shert.

Id.

What flames, quod he, when I thee present see
In danger rather to be dant then *brent*. *Spenser.*

BRENNAGE, **BRENNAGIUM**, or **BRENNATIUM**, in authors of the middle age, a kind of tribute paid in lieu of bran, or bran itself, which the tenants were obliged to furnish for the support of the lord's hounds.

BRENNER (Henry), was born at Kronoby, in West Bothnia, in 1669, and received his education at Upsal. In 1687, being appointed to attend the Swedish envoy to the court of Persia, he acquired the language of that country, so that Sarug Khan, the Persian ambassador, when about to depart for Stockholm, took him into his suite as an interpreter. War however having broken out between Charles XII. and the czar, the latter caused Brenner to be arrested on the road at Moscow in 1700, and kept him in confinement till the peace of Nystadt. In 1722

he returned to Stockholm, and was appointed royal librarian, a situation which he enjoyed till his death in 1732. He translated from the Armenian the history of that country, by Moses Armenus Choronenis, a work he printed at Stockholm, on his return in 1723. His other works are: *Observations on the Expedition of the Czar Peter the Great against the Persians*, and an *Accurate Chart of the Caspian Sea, the River Daxia* (supposed to be the ancient *Iaxartes*), &c. This chart was inserted, without acknowledgment, in the *Memorabilia Orientalis Partis Asiae*.

BRENNUS, a celebrated captain among the Gauls, who, about A.C. 388, entered Italy with a powerful army; made great conquests there; defeated the Romans; and sacked Rome. The capitol alone was defended; and Camillus, coming to its relief, drove the Gauls not only out of Rome, but out of all Italy. See **ROME**.

BRENT Sir Nathaniel, LL.D. was born at Little Woolford, Warwickshire, in 1573; and educated at Oxford, where he took his degrees. In 1613 he travelled abroad, and on his return married the daughter and heiress of Dr. Abbot, bishop of Salisbury, and niece of archbishop Abbot; who sent him to Venice in 1617, to procure a copy of the history of the Council of Trent, from the joint authors, fathers Paul and Fulgentio; which he translated from Italian into English. He received several promotions from the archbishop, and was knighted by king Charles I. In 1646, when Oxford surrendered to the parliament, he was restored to his warden-ship of Merton College, and appointed chief visitor of that university. He died at London in 1652, aged seventy-nine.

BRENTA, in ornithology, the Brent goose, a species of anas, with a black neck and a white collar round it. It has been usually confounded with the barnacle, and supposed to differ from it only in sex; but this is erroneous. It is somewhat larger than the barnacle, and is longer bodied.

BRENTFORD, a town of Middlesex, on the Thames, seven miles from London, on the great road to the west. It is divided into the old and new town, in which last are the church, and the market-house where the county elections are held. It consists almost entirely of a single long street, well stocked with public houses, and has a weekly corn market. Here are also one of the largest and most respectable distilleries in the kingdom and several malting-houses. The little river Brent is here joined by the Grand Junction Canal. At Brentford, Edmund Ironside, in the year 1016, attacked and defeated the Danes under Canute, in 1642 Charles I. after the battle of Edgehill, drove two regiments of the parliamentary forces from hence, with the loss of 500 men. Half a mile onwards to the west is Sion House, a nunnery founded in 1414, by Henry V. After the suppression of religious houses, it was granted by Edward VI. to the duke of Somerset, who built a magnificent edifice on the site, now the property of the duke of Northumberland. Here Lady Jane Grey resided, when she accepted the offer of the crown.

BRENTUS, in zoology, a genus of insects;

order coleoptera. Antennæ moniliform, inserted beyond the middle of the snout; head projecting; snout cylindrical and long. Species eleven; found on the shores of the Atlantic.

BREQUIGNY (Lewis-George Oudard de Feudrix), was born in the country of Caux in 1715, and died in 1795. He became a member of the French Academy, and of that of inscriptions, and was sent to England to collect materials respecting the French history. Access was given him to the Tower records, and the British Museum, by which he was enabled to throw considerable light upon many important historical points. His principal works are—1. A History of the Revolutions of Genoa, 3 vols. 12mo. 2. An edition of Strabo. 3. Lives of the Ancient Greek Orators, with a translation of several of their Discourses, 2 vols. 12mo. 4. Diplomata, Chartæ ad res Franciscas Spectantia, 4to. 5. Chronological Tables, &c. 5 vols. folio. 6. Ordonnances des Rois de France de la Troisième Race, 6 vols.

BREREWOOD (Edward), a very learned English mathematician and antiquary, the son of Robert Brewwood a tradesman, who was thrice mayor of Chester; was born in that city in 1565. He was educated in Chester; and admitted, in 1581, of Brazen-nose College, Oxford. In 1596 he became the first professor of astronomy in Gresham College in London, where he led a very retired life. He died there of a fever, Nov. 4th 1613. He never published any thing during his life, but after his death came out the following works. 1. De Ponderibus et Pretiis Veterum Nummorum. 2. Enquiries Touching the Diversities of Languages and Religion through the chief parts of the World. 3. Elementa Logicæ in Gratiarum Studiosæ Juventutis in Acad. Oxon. 4. Tractatus Quidam Logici. 5, 6. Two Treatises on the Sabbath. 7. Tractatus duo, Quorum Primus est de Meteoris, Secundus de Oculo. 8. Commentarii in Ethica Aristotelis. 9. Patriarchal Government of the Ancient Church.

BRESCIA, the capital of the district Bresciano, an ancient and large city of Italy with a bishop's see and a good citadel. The cathedral is also a noble edifice of white stone. Brescia is seated on an agreeable plain on the river Garza, which runs through it. Its walls are also washed by the Mella on the west, and the Navilio on the east. It contains about 50,000 inhabitants. They manufacture silk, linen, and hardwares, and make oil from linseed. During the French domination in Italy, it formed the chief town of the department of the Mella. It has been remarkable for its calamities. It was burnt by the Goths in the year 412, and not long after was entirely ruined by Attila. Its re-construction did not take place till after the year 452. It passed subsequently under the dominion of the Lombards and the Emperors, and in A. D. 936 Otto I. declared it a free city of the empire. It soon after became a prey to the factions of the Guelphs and Gibellines. In 1478 and 1524 it was visited by a destructive pestilence; in 1550 by the small-pox, which carried off 12,000 persons in the space of five months; in 1577 and 1630 by destructive epidemics; and on 18th August 1769 a dreadful explosion of gunpowder took

place, occasioned by the lightning falling on a magazine in the neighbourhood of the gate of St. Nazario, which levelled several churches, and nearly eighty houses. It lies thirty miles south-east of Bergamo and 106 west of Venice.

BRESCIANO, a province of Italy formerly in the territory of Venice, now part of the Lombardo-Venetian Kingdom; bounded on the north by the Grisons and the bishopric of Trent, on the east by the lake Garda, the Veronese, and the duchy of Mantua, on the south by Mantua and the Cremonese, and on the west by the Cremasco, the Bergamasco, and the Valteline. It is watered by several rivers, which render it very fertile; is full of towns and villages, and has not less perhaps than 500,000 inhabitants. The towns of most note are Brescia, Breno, Chiari, Salò, and Verola-Alghise. The Brescian dialect of the Italian is considerably intermixed with French. Northward the country is mountainous, but in the south it is spread out in fertile plains, producing sometimes in one season, grain, flax, and millet. The great fertility has been attributed to the extent of irrigation, the rivers Chiese, Oglio, Mella, and Susa, intersecting the country in a variety of directions, and branching out into canals. The inhabitants have also the character of being very industrious. The most celebrated production is the wine called the vino di santo, or vino santo, which, after the lapse of some years, becomes of a beautiful golden color, and acquires an exquisite taste. Here also are manufactures of earthenware, paper, iron, copper, and fire-arms, and considerable quantities of silk are procured. At Gardona, about ten miles from Brescia, is a cannon foundry, and fishing is here an important occupation. The sands of the Adda and Oglio are said to yield particles of gold. Near the lake of Iseo are found topazes and garnets, and at Trompia, in the same valley, extensive iron mines; this part of the country likewise contains jasper, copper, alabaster, &c.

BRESILIA, in ornithology, a species of tanager, in the order of passerines.

BRESLAU, or **BRESLAW**, a small duchy of lower Silesia, in Germany, lying between those of Wohlau, Oels, Brieg, Schwiednitz, and Liegnitz. It is every where level and flat; is an excellent corn and pasture country, abounding with herds of cattle and flocks of sheep; but destitute of wood, except in one district. Both the property and jurisdiction belong to the king of Prussia. It contains 950 square miles, and 178,000 inhabitants; being divided into the circles of Breslau, Namslau, and Neumarkt.

BRESLAU, or **BRESLAW**, the chief town of the duchy, and of all Silesia, is situated at the conflux of the Oder and Ohlau. It is divided into the new and old town; and including the suburbs, is of great extent. It is a bishop's see, having many large regular squares, broad streets, and stately public and private edifices; surrounded with walls and other fortifications, having six gates. There are twenty-six churches, besides convents belonging to the Catholics; eight of the Lutheran, and one of the Calvinist persuasion. The cathedral church of St. John, containing seventeen chapels, is built on an island, outside of the town. The Jews have likewise two synagogues and a school, the bishop

a stately palace, and the Lutherans two gymnasiums. The catholic university is a noble structure, and the exchange magnificent; the former was instituted by the emperor Leopold in 1702, and contains sometimes 400 students. This city is the third in rank, next to Berlin and Königsburg, in the whole Prussian dominions. Its trade and manufactures are very considerable. The staple article is linen; but Turkish yarn, silk, printed cottons, calicoes, chintz, and woollen stuffs, are also largely dealt in. It was taken by Prussia in 1711, and retaken by the Austrians in 1757; but the king of Prussia recovered it again the same year, and gained a signal victory over the Austrians at Leuthen, a village not far from the capital. It was again invested by the Austrians in 1760, and endured a three days bombardment. In December, 1806. it underwent another siege and bombardment by the Bavarians and their allies; to whom, after the destruction of the entire suburbs, it was surrendered and capitulated on the 7th of the ensuing January. Breslaw is 130 miles east of Dresden, and 165 north of Vienna.

BRESSAY, or BRASSA, one of the Shetland islands about four miles long and two broad, lying to the east of the coast of Shetland. It consists of 366 merks of land, and has a good harbour in Brassy Sound, where Greenland whale ships and Dutch herring vessels rendezvous. On the north is a deep bay, called Aith's Voe. The island is appropriated to pasture, and the inhabitants, who amount to several hundreds, are devoted to fishing and agriculture. Here are the remains of several chapels, and ancient forts. At the north entrance of the sound is a sunken rock, called the Unicorn, from a ship of that name, wrecked on it about the year 1568.

BREST', *n. s.* in architecture. That member of a column, called also the torus, or tore.

BREST SUMMERS. The pieces in the outward parts of any timber building, and in the middle floors, into which the girders are framed.

BREST, a maritime town of France, in the department of Cape Finisterre, and ci-devant province of Brittany, seated on the declivity of a hill, on the side of its port, which is one of the best in Europe. One of its chief advantages is that vessels can leave it with almost any wind. It contains a noble naval arsenal and dock-yard, which the authorities are very jealous of exhibiting to strangers. The craggy and narrow entrance, into the port, called the Goulet, is guarded by a strong castle seated on a rock, which cannot be attempted on the sea side; and is defended on the land side by a ditch and other fortifications. There are several sunken rocks near the entrance; on the most dangerous of which, the Mingan, the Republican, a French ship of the line, was wrecked in 1794: foreign vessels, indeed, always require a pilot here. The streets of the town are narrow and ill-contrived, and the inland trade is small. An attempt was made to seize Brest, in 1694, by a British fleet and army, under lord Berkley, who were repulsed after a desperate conflict, with the loss of 400 seamen, 200 soldiers, and the gallant general Talmache. But he more successfully managed to blockade this port during the greater part of that war. It is 48 leagues west of Rennes, and 41 west of Paris.

BRET, *n. s.* A fish of the turbot kind, also burt or brut.

BRET is a name given on the coasts of Lincolnshire to the turbot, a fish extremely plentiful there, and taken in vast numbers. They are caught in a net, trailed by two horses, the one going up to the middle of his body in water, the other on shore.

BRETACHLÆ, in writers of the middle age, denote wooden towers or castles, wherewith towns or camps were defended.

BRETAGNE, a ci-devant province of France, now formed into five departments, viz. North Coast, Finisterre, Ille and Vilaine, Lower Loire, and Morbihan. See BRITANNY.

BRETESSE, in heraldry, denotes a line embattled on both sides.

BRETEUIL, a town of France, in the department of the Lower Seine, seated on the river Iton, fifteen miles south-west of Evreux. Long. 1° 0' E., lat. 48° 56' N.

BRETHREN, *n. s.* The plural of brother. See BROTHER.

All these sects are brethren to each other in faction, ignorance, iniquity, perverseness, pride. *Swift.*

BRETHREN AND CLERKS OF THE COMMON LIFE, a denomination assumed by a religious fraternity towards the end of the fifteenth century. They lived under the rule of St. Augustin, and were eminently useful in promoting the cause of religion and learning. Their society was first formed, in the fourteenth century, by Gerard de Groote, a native of Deventer; but did not flourish till it obtained the approbation of the council of Constance. It became very respectable in Holland, the Lower Germany, and the adjacent provinces. It was divided into two classes; the lettered brethren or clerks, and the illiterate: they lived in separate habitations, but maintained the closest fraternal union. The former applied to the study of polite literature, and the education of youth; whilst the latter were employed in manual labor, and the mechanic arts. They are frequently called Beghards and Lollards, by way of reproach.

BRETHREN AND SISTERS OF THE FREE SPIRIT, in ecclesiastical history, an appellation assumed by a sect which sprang up towards the close of the thirteenth century, and gained many adherents in Italy, France, and Germany. They took their denomination from the words of St. Paul, Rom. viii. 2, 14, and maintained that the true children of God were invested with perfect freedom from the jurisdiction of the law. They were enthusiasts to a degree of distraction, both in their principles and practice. In their aspect, apparel, and manner of living, they resembled the Beghards, and were sometimes called after them. Some of their professed principles resembled those of the Pantheists; for they held, that all things flowed by emanation from God; that rational souls were portions of the Deity; that the universe was God; and that, by the power of contemplation, they were united to the Deity, and acquired, hereby, a glorious and sublime liberty, both from the sinful lusts and the common instincts of nature: hence they concluded, that the person, who was thus absorbed in the abyss of the Deity, became a part of the God-

head, and was the son of God, in the same sense and manner that Christ was, and freed from the obligation of all laws human and divine. They treated with contempt Christian ordinances, and all external acts of religion, as unsuitable to the state of perfection at which they were arrived. Some of them were honest but deluded enthusiasts; and endured the torments inflicted on them by the inquisitors with astonishing heroism and triumph. Others proceeded to the most extravagant licentiousness of conduct, maintaining that the divine man, or believer, could not sin, let his conduct be ever so atrocious. Many edicts were published against them; but, notwithstanding the severities they suffered, they continued till about the middle of the fifteenth century. They were called by several names, such as Schwestriones, Picards, Adamites, and Tur-lupins.

BRETHREN, WHITE, *fratres albat*, were the followers of a priest from the Alps, about the beginning of the fourteenth century, who was arrayed in a white garment; and, as they were also clothed in white linen, they were distinguished by this title. Their leader carried about a cross, like a standard, and his apparent sanctity and devotion drew together a number of followers. This enthusiast practised many acts of mortification and penance, endeavoured to persuade the European nations to renew the holy war, and pretended that he was favored with divine visions. Boniface IX. ordered him to be apprehended and committed to the flames, upon which his followers dispersed.

BRETON, CAPE, an island near the eastern continent of North America, lying between 45° and 47° N. lat. It is separated from Nova Scotia by a narrow strait called Canso, and is about 100 miles in length, and fifty in average breadth. It is surrounded with little sharp-pointed rocks, separated from each other by the waves, above which some of their tops are visible. All its harbours are open to the east turning towards the south. On the other parts of the coast there are but a few anchoring places for small vessels, in creeks, or between islets. Except in the hill parts, the surface of the country has but little solidity, being everywhere covered with a light moss and water. The dampness of the soil is exhaled in fogs, without rendering the air unwholesome. In other respects the climate is cold; owing either to the prodigious quantity of lakes, which cover above half the island, and remain long frozen, or to the number of forests, that totally intercept the rays of the sun; which are also obscured by perpetual clouds.

Though some fishermen had long resorted to this island every summer, not above twenty or thirty had ever fixed there. The French, who took possession of it in August 1713, were properly the first inhabitants. They changed its name into that of *Isle Royale*, and fixed upon fort Dauphin for their principal settlement. This harbour was two leagues in circumference. The ships came to the very shore, and were sheltered from winds. Forests, affording oak sufficient to fortify and build a large city, were near at hand; the ground appeared less

barren than in other parts, and the fish were more plentiful. The harbour might have been rendered impregnable at a trifling expense; but the difficulty of approaching it (a circumstance that had at first made a stronger impression than the advantages resulting from it) occasioned it to be abandoned, after great labor had been bestowed upon the undertaking. They then turned their views to Louisbourg, the access to which was easier; and convenience was thus preferred to security: the fortification of Louisbourg, however, was not begun till 1720. In 1714 some fishermen, who till then had lived in Newfoundland, settled in this island. It was expected that their number would soon have been increased by the Acadians, who were at liberty, from the treaties that had been granted them, to remove with all their effects, and even to dispose of their estates; but these hopes were disappointed. The Acadians choose rather to retain their possessions under the dominion of Britain, than to give them up for any precarious advantage they might derive from their attachment to France. Their place was supplied by some distressed adventurers from Europe, who came over, from time to time, to Cape Breton, and the number of inhabitants gradually increased to 4000. They were settled at Louisbourg, Fort Dauphin, Port Toulouse, Nerucka, and on all the coasts where they found a proper beach for drying the cod. The inhabitants never applied themselves to agriculture, the soil being unfit for it. They often sowed corn, but it seldom came to maturity; and when it did thrive so much as to be worth reaping, it had degenerated so considerably, that it was not fit for seed next spring. They have only continued to plant a few pot-herbs, that are tolerably well tasted, but must be renewed every year from abroad. The poorness and scarcity of pastures have likewise prevented the increase of cattle. In a word the soil of Cape Breton seemed calculated to invite none but fishermen and soldiers. Though the island was entirely covered with forests before it was inhabited, its woods have scarcely ever been an object of trade. A great quantity, however, of soft wood was found there fit for firing, and some that might be used for timber; but the oak has always been scarce, and the fir never yielded much resin. The peltry trade was a very inconsiderable object. It consisted only in the skins of a few lynxes, elks, musk rats, wild cats, bears, otters, and foxes, both of a red and silver-gray color. Some of these were procured from a colony of Indians, who had settled on the island with the French, and never could raise more than sixty men able to bear arms. The rest came from St. John's or the neighbouring continent. Greater advantages might possibly have been derived from the coal mines which abound in the island. They lie in a horizontal direction; and, being only six or eight feet below the surface, may be worked without digging deep, or draining off the waters. Notwithstanding the prodigious demand for this coal from New England, from 1745 to 1749, these mines would probably have been forsaken had not the ships which were sent out to the French islands wanted ballast. In one of these mines a fire has been kindled,

which could never yet be extinguished. The people of Cape Breton did not send all their fish to Europe. They sent part of it to the French southern islands, on board twenty or twenty-five ships from seventy to 140 tons burden. Besides the cod, which made at least half their cargo, they exported to the other colonies timber, planks, thin oak boards, salted salmon, and mackarel, train oil and sea coal. All these were paid for in sugar and coffee, but chiefly in rum and molasses. The island could not consume all these commodities. Canada took off but a small part of the overplus; it was chiefly brought to the people of New England, who gave in exchange fruits, vegetables, wood, brick, and cattle. This trade of exchanging was allowed; but a smuggling trade was added to it, carried on in flour, and salt fish.

This island, the key of Canada, was attacked by the English, in 1745; and the event is of so singular a nature, that it deserves a particular detail. The plan of this first invasion was laid at Boston, and New England bore the expense of it. A merchant named Pepperel, who had excited, encouraged, and directed the enterprize, was entrusted with the command of an army of 6000 men, which had been levied for this expedition. Though these forces, convoyed by a squadron from Jamaica, brought the first news to Cape Breton of the danger that threatened it, and the advantage of a surprise would have secured the landing without opposition, the success of the undertaking was still precarious. These inexperienced troops stood in need of the assistance of some fortunate incident, with which they were indeed favored in a singular manner. The construction and repairs of the fortifications had always been left to the care of the garrison of Louisbourg, and the soldiers were eager to be employed in these works, as the means of procuring them a comfortable subsistence. But, obtaining no pay, they had lived in open rebellion for six months, when the British appeared before the place. This was the time to conciliate both parties, and to unite in the common cause. The soldiers made the first advances; but their commanders mistrusted a generosity of which they themselves were incapable. They believed that the soldiers were only desirous of sallying out, that they might have an opportunity of deserting; and their own officers kept them in a manner prisoners, till a defence so ill managed had reduced them to the necessity of capitulating. The whole island shared the fate of Louisbourg, its only bulwark. This valuable possession, restored to France by the treaty of Aix-la-Chapelle, was again attacked by the British in 1758. On the 2d of June, a fleet of twenty-three ships of the line and eighteen frigates carrying 16,000 well-disciplined troops, anchored in Gabarus bay, within half a league of Louisbourg. As it was evident it would be to no purpose to land at a great distance, because it would be impossible to bring up the artillery and other necessities for a considerable siege, it had been attempted to render the landing impracticable near the town. In the prudent precautions that had been taken, the besiegers saw the dangers and difficulties they had to expect; but, far from being deterred

by them, they had recourse to stratagem, and while by extending their line they threatened and commanded the whole coast, they landed by force of arms at the creek of Cormorant. This place was naturally weak. The French had fortified it with a good parapet planted with cannon. Behind this rampart they had posted 2000 excellent soldiers and some Indians. In front they had made a close hedge with branches of trees, which would have been very difficult to penetrate, even if it had not been defended. This pallisade, which concealed all the preparations for defence, appeared at a distance to be nothing more than a verdant plain; and would have preserved the colony, had the assailants been suffered to complete their landing, and to advance with the confidence that they had but few obstacles to surmount. Had this been the case, overpowered at once by the fire of the artillery and the small arms, they must infallibly have perished on the shore or in the hurry of re-embarking, especially as the sea was then very rough; which would have defeated the whole project. But all the prudent precautions that had been taken by the French, were rendered abortive by their own impetuosity. The English had scarcely begun to move towards the shore, when their enemies, by their brisk and hasty fire at their boats, and still more by the premature removal of the boughs that masked the forces, (which they ought to have concealed), led them to guess at the danger they were going to run into. They immediately turned back, and saw no other place to effect their landing but a rock, which had been always deemed inaccessible. General Wolfe, though much taken up in re-embarking his troops, and sending off the boats, gave the signal to major Scott to repair thither. That officer immediately removed to the spot with his men. His own boat coming up first, and sinking at the very instant he was stepping out, he climbed up the rock alone. He hoped to meet with 100 of his men, who had been sent thither some time before. He found only ten. With these few, however, he gained the summit of the rock. Ten Indians and sixty Frenchmen killed two of his men, and mortally wounded three. In spite of his weakness he stood his ground under cover of a thicket, till his brave countrymen, regardless of the boisterous waves and the fire of the cannon, came up to him, and put him in full possession of that important post, the only one that could secure their landing. The French, as soon as they saw that the enemy had got a firm footing on land, betook themselves to the only remaining refuge, and shut themselves up in Louisbourg. The fortifications were in a bad condition, because the sea sand, which they had been obliged to use, is by no means fit for works of masonry. The revetments of the several curtains were entirely crumbled away. There was only one casement, and a small magazine, that were bomb-proof. The garrison which was to defend the place consisted only of 2900 men. Notwithstanding all these disadvantages, the besieged determined to make an obstinate resistance. They were confirmed in their resolution by the courage of a woman. Madame de Drucourt was continually upon the ramparts, with her purse in

her hand; and firing herself three guns every day, seemed to dispute with the governor, her husband, the glory of his office. The besieged were not dismayed at the ill success of their several sallies, or the masterly operations concerted by admiral Boscawen and general Amherst. It was but at the eve of an assault, which it was impossible to sustain, that they talked of surrendering. They made an honorable capitulation; and the conqueror showed the respect due to his brave enemies, and did not sully his glory by any act of barbarity or avarice. The possession was confirmed to Great Britain by the peace in 1763; since which, the fortifications have been blown up and the town of Louisbourg dismantled.

Cape Breton was considered to belong to Nova Scotia, in respect to matters of government, till the year 1784, when it was erected into a separate government, by the name of Sidney. It contains about 1000 inhabitants, who have a lieutenant-governor, appointed by the king. It lies between 45° 28' and 47° N. lat. and 59° 44' and 61° 29' W. long., and is 135 miles east of Halifax.

BREVE, in law, is any writ directed to the chancellor, judges, sheriffs, or other officers, whereby a person is summoned, or attached, to answer in the king's court, &c.

BREVE, *n. s.* in music. A note or character of time, equivalent to two measures or minims. It is in the form of a diamond or square, without any tail.

BREVE DE RECTO, is a writ of right or licence, for a person ejected, to sue for the possession of the estate detained from him.

BREVE PERQUIRERE, the purchasing of a writ or licence for trial in the kings courts; whence comes the present use of paying 6s. 8d. fine to the king in suit, for money due on bond, where the debt is £40, and 10s. where it is £100, &c.

BREVET, *Fr.*, denoted the grant of some favor or donation from the king; partly answering to our warrant, and partly to letters patent. It was particularly applied to the commission of a subaltern officer, being only written on parchment, and without seal.

BREVET RANK is a rank in the army higher than that for which pay is received. Also a term used to express general promotion, by which a given number of officers are raised from the rank of captain, upwards, without any additional pay, until they reach the rank of major-general; when, by a late regulation, they become entitled to a quarterly allowance.

BREVIARIUM. See BREVIARY.

BREVIARY, *Fr.* *breviaire*; *Lat.* *brevis*, *bre'viare*, *bre'varium*, *bre'vitas*.
BRE'VIATURE, } An abridgment, epitome; a
BRE'VITY. } compendium; the substance of something larger; abbreviation; conciseness, shortness; contraction into few words. The book containing the daily service of the church of Rome is called a breviary.

Cresconius, an African bishop, has given us an abridgment, or *brevariary* thereof. *Ayliffe.*

It is obvious to the shallowest discourses, that the whole counsel of God, as far as it is incumbent for man to know, is comprised in one *brevari* of evangelical truth.

Decay of Piety.

Virgil, studying *brevari*, and having the command of his own language, could bring those words into a narrow compass, which a translator cannot render without circumlocutions.

Dryden.

This argument is stated by St. John with his usual elegant *brevari* and simplicity; 'Beloved, if God so loved us, we ought to love one another.'

Porteus.

BREVIARY, BREVIARIUM, in Roman antiquity, a book first introduced by Augustus, containing an account of the application of the public money.

BREVIARY, in the Romish church, is composed of matins, lauds, first, third, sixth, and ninth vespers, and the compline or post communion. It is general, and may be useful in all places; but on its model various others have been built, appropriated to dioceses, and different orders of religious. The institution of the breviary is not very ancient; there have been inserted in it the lives of the saints, full of ridiculous stories, which gave occasion to several reformations of it, by several councils, particularly those of Trent and Cologne; by several popes, particularly Pius V. Clement VIII. and Urban VIII. and also by several cardinals and bishops, each lopping off some extravagancies, and bringing it much nearer to the simplicity of the primitive offices. Originally, every body was obliged to recite the breviary every day; but by degrees the obligation was reduced to the clergy only, who were enjoined under penalty of mortal sin and ecclesiastical censures, to recite it at home, when they cannot attend in public. In the fourteenth century, there was particular reserve granted in favor of bishops, who were allowed on extraordinary occasions, to pass three days without rehearsing the breviary. The office was originally called *cursum*, and afterwards *brevarium*; which imports that the old office was abridged; or rather, that this collection is a kind of abridgment of all the prayers. The breviaries now in use are innumerable; the difference between them consists principally in the number and order of psalms, hymns, paternosters, ave-maries, creeds, magnificates, &c. &c.

BREVIARY of the Greeks is the same in almost all churches and monasteries that follow the Greek rites; the Greeks divide the psalter into twenty parts. In general, the Greek breviary consists of two parts; the one containing the office for the evening, the other that of the morning, divided into matins, lauds, first, third, sixth, and ninth vespers, and the compline; that is, of seven different hours, on account of that saying of David, *Septies in die laudem dixi tibi*.

BREVIATOR, an officer under the eastern empire, whose business it was to write and translate briefs. At Rome those are styled *breviators*, or *abbreviators*, who dictate and draw up the pope's briefs.

BREVBUS A ROTULIS LIBERANDIS, a writ to a sheriff, to deliver to his successor the county, with the appurtenances, and the rolls, writs, and other things belonging to his office.

BREVICORNIS, in entomology, a species of *cerambyx*: thorax green; wing-cases obscure; antennæ short, and black. Found in Sierra Leone. Also a species of *neocyda*: head and thorax fuscous; the wing-cases very minute: au-

tennæ, short and thick ; inhabiting Guinea. Also a species of cimex, of a dull cupreous color : antennæ, very short and compressed : the anterior thighs dentated. Also a species of tipula, of a black glossy color. A native of Europe. Also a species of monoculus, that inhabits marshes overflowed by the sea : hairs of the tail very short. The antennæ in the male are hooked, in the female forked at the tips.

BREVI'ER, *n. s.* A particular size of letter used in printing ; so called, probably, from being originally used in printing a breviary.

BREVITY is particularly used in speaking of style or composition. It is by some called brachylogia and brevilouquence ; sometimes laconismus. Tacitus and Persius are remarkable for the brevity of their style. There are two kinds of brevity, one arising from dryness, poverty, and narrowness of genius ; the other from judgment and reflection ; which latter alone is laudable. Brevity is so essential to a tale, a song, an epigram, and a public speech, that without it they become dull. Rhetoricians make brevity one of the principal marks or conditions of eloquence ; but the rules they prescribe for attaining it are difficult to apply, so as still to keep the due medium between too much and too little. It is the selection of comprehensive words which Quintilian admires so much in Sallust ; and the imitation of which, by other writers, has caused so much obscurity.

BREVIUM Custos. See Custos.

BREUSCH, a river of France in the department of the Lower Rhine, and ci-devant province of Alsace. It divides into two branches, one of which receives the Mosley, and by means of a canal, four miles long, made by Louis XIV. runs into the Ill above Strasburg ; the other runs through Strasburg, and falls into the Ill below it.

BREW', *v. & n.* } Goth. *brigga* ; Dan. *brige* ; Swed. *brigga* ; Ang.-Sax. *brīwan* ; Teut. and Belgic *brāven* ; Russ. *barw* ; Welsh *braga*. The word seems to be cognate with the Saxon *brug* ; Scotch and Irish *brochan* ; Welsh *brechan* ; a farinaceous mixture. Fr. *brasser* ; barbarous Lat. *bracho*, *braxo*, may be from *brac*, *barac*, grain. The idea is mixture and fermentation. To infuse grain into water ; but more principally for the purpose of making fermented liquor. It is applied chiefly to making of beer, our forefathers tell us, by the simple ingredients of malt, hops, and pure water : in modern times it is quite another thing : there is an animal can explain what we mean, a kind of tolerated unlicensed poisoner, called a brewer's druggist. The verb is metaphorically applied to preparing or exciting civil commotions and plots ; to the raising any heating, boiling, commixture of the passions. Pope uses it as descriptive of the operations of nature in producing storm and tempest.

In all the town, n'as *brewhouse* ne *taverne*,
That he ne visited with his *solas*,
Ther as that any *gaillard* toptere was.

Chaucer's Canterbury Tales.

I keep his house, and wash, wring, *brew*, bake,

scour, dress meat, and make the beds, and do all myself. *Shakspeare.*

Take away these chalices ; go, *brew* me a pottle of sack finely. *Id.*

Here is neither bush nor shrub to bear off any weather at all, and another storm *brewing*. *Id.*

When *brewers* mar their malt with water. *Id.*

Go, *brew* a pottle of sack finely.

With eggs, sir ?—

—Simple of itself : I'll no pullet-sperm in my *breuage*. *Id.*

A *brewing* of new beer set by old beer, maketh it work again. *Bacon.*

We have drinks also *brewed* with several herbs, and roots, and spices. *Id.*

Trial would be made of the like *brew* with potatoe roots, or burr roots, or the pith of artichokes, which are nourishing meats. *Id.*

In our *breuchouses*, *bakehouses*, and *kitchens*, are made divers drinks, breads, and meats. *Id.*

Mercy guard me !

Hence with thy *brewed* enchantments, foul deceiver. *Milton.*

I found it to be the most malicious and frantick surmise, and the most contrary to his nature, that, I think, had ever been *brewed* from the beginning of the world, howsoever countenanced by a libellous pamphlet of a fugitive physician, even in print. *Wotton.*

Or *brew* fierce tempests on the watery main

Or o'er the globe distil the kindly rain. *Pope.*

Men every day eat and drink, though I think no man can demonstrate out of Euclid, or Apollonius, that his baker, or *brewer*, or cook, has not conveyed poison into his meat or drink. *Tillotson.*

Why dost thou glory in thy strength of beer,

Firm-cork'd, and mellow'd till the twentieth year,

Brew'd, or when Phoebus warms the fleecy sign,

Or when his languid rays in Scorpio shine. *Gay.*

O where is wisdom, when, by this o'erpower'd,

The state is censured, and the maid deflowered ?

And wilt thou still, O squire ! *brew* ale so strong ?

Hear, then, the dictates of prophetic song. *Id.*

BREWER (Antony), a dramatic poet, who flourished in the reign of king Charles I. and appears to have been held in high estimation by the wits of that time, as may be gathered from an elegant compliment paid to him in a poem called Steps to Parnassus, wherein he is supposed to have a magic power to call the muses to his assistance, and is even set on an equality with the immortal Shakspeare. There are great disputes as to the number of his works. Those which have been ascribed to him with any certainty are, 1. The Country Girl, a comedy. 2. The Lovesick King. And, 3. Lingua : respecting which Winstanly records a remarkable anecdote. He tells us, that, when this play was acted at Cambridge, Oliver Cromwell, then a youth, acted a part in it, and entered warmly into the ideal character. The substance of the piece is a contention among the senses for a crown, which Lingua had laid for them to find. The part allotted to young Cromwell, was that of Tactus or Touch ; who, having obtained the contested coronet, makes this spirited declamation :

Roses and bays, pack hence ; this crown and robe
My brows and body circles and invests :
How gallantly it fits me ! sure the slave
Measured my head who wrought this coronet,—

They lie, that say complexions cannot change !
My blood's ennobled, and I am transformed
Unto the sacred temper of a king.
Methinks I hear my noble parasites
Styling me Cæsar, or Great Alexander,
Licking my feet, &c.

It is ascribing too much, however, to such a trifling circumstance, to suppose, as some have done, that this speech first fired Cromwell's soul with ambition, and excited him from the possession of an imaginary crown to stretch his views to that of a real one.

BREWERIA, in botany, a genus of plants : class pentandria, order monogynia. Natural order campanaceæ, Linn. Convolvulacæ, Juss. Br. CAL. five deep segments : cor. funnel-shaped, plaited : STYL. deeply divided : STIG.

B R E W I N G.

BREWING, as we have already shown (see our article ALE), has from a remote period, and in various countries, been practised as a domestic art ; sometimes conducted by the male, and at other times by the female, portion of the household. The honor of its invention, indeed, has been assigned to an Egyptian lady. And in its domestic application to the supplying an English family with the beverage of our forefathers, good ale, it has, in the article adverted to, engaged a considerable portion of our attention. We there observed that the brewing of all kinds of malt liquor is conducted by the same general process : the only difference in the results arising, in the first instance, from the different kinds of malt employed, the quantity of that essential article used—and, we may here add, the scale upon which the operations are conducted. That is, the extensive consumption of malt liquor in this country, by the middling and poorer classes, has rendered 'the brewery,' as it is called, especially in and about London, the most opulent, perhaps, of all trades ; enormous capitals have been devoted to its cultivation and monopoly ; and while this system has its evils, of which we shall be free to speak presently, it has on the other hand been the means of encouraging the application of science to every part of this process, and a far better beverage is thus doubtless produced to the public than could be brewed on any small scale. We here allude particularly to the brewing of porter, which has never succeeded in small establishments : and which, as brewed by all the respectable London houses, has for many years past very steadily retained its nutritious character and peculiar flavor. We shall endeavour in this paper to state, 1. The commercial history of this art, and its present state ; 2. The different kinds of grain employed in brewing ; 3. The process of brewing porter more particularly ; and give, lastly, a practical description of a London porter brewery.

1. *Of the commercial history of brewing.*—In the barley-country of Egypt we have found the first private brewers ; the keepers of taverns and places of public refreshment were without doubt the first brewers of malt liquors for sale ; among

capitate : CAP. two cells, valvular : SEEDS two in each cell. These are diffuse herbs, not milky ; their leaves undivided ; flowers axillary, mostly solitary. They are all natives of New Holland, and are described by Mr. Brown.

BREWERS.—There are companies of brewers in most capital cities ; that of London was incorporated in 1427 by Henry VI. and that of Paris was still older. The brewers of Edinburgh are not a corporation.

BREWERS-HAVEN, a good harbour at the north end of the island of Chiloe, on the coast of Chili, in South America, lying on the South Sea. The Dutch landed forces here in 1643, designing to get possession of some part of Chili ; but they were driven from thence by the Spaniards and the natives. Long. 82° 0' W., lat. 42° 0' S.

our Anglo-Saxon ancestors we find a law forbidding a priest to eat or drink at ceapealethelum, or places where ale was sold ; Tindal speaks of the 'dutie of the bruer to serve his brethren faithfully ;' and Stowe, 1414, of one William Murle, a rich maultman, or bruer of Dunstable, who had his two horses traped with golde following him, and a pair of gilt spurs in his bosome ; but the 'common brewer' of the metropolis, and our large towns and their neighbourhoods, is an individual of comparatively modern times. He is a wholesale beer-merchant, restricted by law from dealing in it by retail : and he divides the brewing of all beer sold with the brewing publican. The latter class of brewers, very few of whom are found in London, amounted a short time since to about 24,000, while the common brewers (not retailers) amounted to 1400 only in number. Yet the quantity of business conducted by the latter is far greater : the London brewers alone, it is said, holding at this time nearly one-third of the entire brewing business of the whole country. And it is remarkable how greatly this business in the metropolis has been drawn of late into the hands of eight or ten gigantic capitalists. Within the Bills of Mortality thirty years ago, there were from forty to fifty public breweries carrying on a trade of from 10,000 to 100,000 barrels annually, on capitals of from £30,000 to £50,000 and upwards : the proprietors being persons of the highest respectability, and more generally than at present the owners or mortgagees of the leases of public houses. Sometimes the leases of victualling houses contained a positive stipulation that the porter or ale drank in the house should be supplied by particular brewers.—*Exam. of C. Barclay, Esq. before the Committee of the House of Commons on the Police of the Metropolis.*

We have lately seen a list of eighty-six London breweries who sent out 4000 barrels and upwards from May, 1786, to May 1787. It was the custom at that time to publish an annual account of the business done by the first twelve houses, none of whom sent out less than 30,000 barrels. Three or four years ago Mr. Barclay presented to the House of

Commons an account of the quantity of beer brewed by the largest houses in the porter trade (including some that sent out but 6000 and 9000 barrels), who in 1807 amounted to eighteen; in 1813 to fifteen; in 1816 to fourteen. Latterly there have been but ten of these great houses, of whom the annual account is published. Yet these accounts compared prove that an increase of one-seventh more of the business of 1807 was executed in 1816 by the smaller number of firms.

In the neighbourhood of London, and in the country, several causes have contributed, during this period, to throw the leases of public-houses into the hands of brewers. The better state of the roads and means of conveyance have prolonged all the first stages out of town: magistrates have thought it incumbent on them to lessen the number of public-houses; and those improvements in the style of building have taken place on every line of road which have a natural tendency to abolish the small public-house, or pot house. Hence while the small breweries in London have been absorbed in the larger ones, the smaller public houses in the neighbourhood have also been merging themselves in the larger, and have become desirable as a property (which Lord Mansfield has declared them to be), have become in many instances a property far beyond the means of the parties who usually enter into the business of a publican. It would not therefore, be difficult to find twenty names in London and its vicinity, who divide amongst them more than one-half of the whole brewing business of England.

Such a change has, of course, added enormously to the pecuniary consideration and influence of the large brewers of the metropolis, and to the extension of the monopoly of serving public houses in one particular direction principally; or to the concentration of the far larger part of the trade in the hands of a few overwhelming capitalists. That particular direction which the monopoly in question has taken in London, of late years, is to purchase the publican, not the public-house; and by means of the 'weight' which, according to the language of the Police Report, these gigantic firms obtain 'with the magistracy,' to influence the discretion hitherto vested in magistrates with regard to the granting of public-house licences. The London brewers have unequivocally disavowed any attempt at bribing or remunerating magistrates for their conduct in this respect, and have, perhaps, successfully rebutted the charge of any deterioration in the article they brew, as compared with that of former years. That they possess, however, the influence in question, a Committee of the House of Commons has affirmed there can be 'no doubt: ' the range of each house is as well understood in the London trade, and can be as little interfered with practically, as a gentleman's manor; plans of ground newly laid out for building, are said to be diligently taken, and forwarded to head-quarters, that a new public house in the regular interest of the district, may be duly planted, and that no diversion of interest may take place: here then is to be found the nucleus of the monopoly

system. The licences annually obey the mysterious influence of the great houses, and all that part of the trade which is worth purchasing is bound to them by loans to the publican. The members of these firms then may truly declare that they take no leases of premises as heretofore, and wholly abstain from binding the publican by written stipulations for supplying him with beer; but Mr. Barelay admits that at least one-half of the number of houses in his trade are confined houses, (three-eighths by loan of money). Messrs. Whitbread's have but three-sevenths of their trade stated to be free, i. e. three-sevenths of the number of their houses, bad and good, profitable, doubtful, and unprofitable customers, taken together. Messrs. Truman and Hanbury about the same proportion. One material fact, however, does not appear in the evidence that furnishes us with these calculations, i. e. the quantity of business that is free. The fair presumption of the case is that these gentlemen do not lend their assistance to the profligate and idle, or on the least productive houses; but to the industrious and attentive to business, and with some hope of a suitable return. But the statement given in evidence before the police committee numbers one house with another; that which disposes of twenty butts per month, and that which disposes of two or three; that to which it is reckoned prudent to afford a loan of £2000 or £3000 with that which possesses a beer licence, (and therefore receives only a few barrels annually), to sell gin! It is quite clear, from this view of the subject, that nineteen-twentieths of the business of these houses may be restricted to certain brewers by the loan of essential capital, while the given proportions of their literal number are correctly stated to be free.

The evils of this system have been long felt; undue influence in many cases of granting valuable licences, and direct bribery in some, have been demonstrated to exist. Beer is an article of as great importance to the common people as cheese or butter, and but little inferior to that of bread. 'Of all the drinks known to man, the most suitable to those who labor appears to be that which proceeds from grain malted. At any rate, it has always been in use in England, to the climate of which it is peculiarly adapted; a climate not so cold as to require ardent spirits; and not so hot as to render it at all difficult to keep beer for almost any length of time. There is, too, this great convenience: that liquor of various degrees of strength is to be drawn from the same material. The quantities may be large or small, suited to the means and the wants of the party. In short, it is the drink of the country.' On various grounds some remedy for the system is doubtlessly required, and government, we know, is heartily disposed to remedy it. A late experiment, in the retail brewery bill, has been tried; but must on the whole, be regarded as a failure. Few respectable persons have embarked in the new breweries; the monopoly system flourishes as vigorously as ever; public-house property, as it is called, is as valuable. The fact is, that nothing short of affording new licences for public-houses

(under due restrictions) will fairly open this trade; and it should be rendered imperative on magistrates to grant them. For, of course, while the present influence over these respectable parties remains, they will use their 'discretion' accordingly: they will discourage the multiplication of public-houses just where they are not brought into the trade of a certain great house; they will evince, as heretofore, a perfectly calculable willingness to grant a licence where the right firm is to supply the beer consumed: and we cannot but remark of late, how invariably among the new buildings on the outskirts of London, the new public-house takes its stand in trim array. It is always ready first; opening its accommodating doors in unformed and unpaved streets; and exhibiting the gilded name, perhaps, of some honorable member of the legislature, whose agent is duly planted there, kindly to anticipate the wants of the poor. Mr. Grey Bennett, we believe, projected an alteration of the kind suggested, in 1822; but the influence of the London brewery first compelled him to introduce a clause, exempting 'the cities of London and Westminster;' and, for the benefit of the member representing the same, we suppose, 'the borough of Southwark; and the eastern half hundred of Brixton, in the county of Surrey;' the great country brewers then very properly remonstrated on being selected as the only victims of the change, and the measure was quashed. The magnitude of the London brewing trade will appear by the fact, that in the year ending 5th July, 1823, the twelve principal porter, and the first six ale, brewers in London, paid to the excise for duties on strong beer £706,038. 17s. 8d.; add to this the table-beer duty, and those of malt and hops consumed, which will amount to as much more, and these eighteen houses will be found to have paid nearly a million and a half of money into the exchequer in twelve months, a fact unparalleled, we presume, in any other business in the world.

2. *Of the different kinds of grain used in brewing.*

—Brewing, as conducted in this country, where it has been cultivated with the greatest success, is an art superinduced upon another, i. e. upon that of malting, and ordinarily means the conversion of malted barley into beer of some kind. But other grain has been used, malting and brewing are both subservient to the important operations of the distillery, and from grain unmaltered (particularly barley) good beer has been brewed. We must refer to the articles **DISTILLATION** and **MALTING** for what is peculiar to those processes.

Unmaltered barley was recommended as an ingredient in the vinous fermentation, or to be used mixed with malt, by Dr. Irvine, so far back as 1785: and Dr. Thomson of Edinburgh, perhaps the most philosophical writer on this subject, has lately adopted the general reasoning of Dr. Irvine. The latter observes, that not only is saccharine matter susceptible of fermentation, but the farinaceous and mucilaginous parts of vegetables also contribute in producing this effect. In their pure state they can neither be changed into vinous liquors nor into vinegar;

but, when combined with a small portion of sweet matter, they all ferment together, and may either change wholly into vinous liquor, or wholly into vinegar, according to the proportion of saccharine matter combined with them. If the latter greatly predominates, the farinaceous parts are entirely changed into the same vinous fluid with the sweet part; if the quantity is very small, the whole becomes vinegar, and has little appearance of ever having been in the vinous state. Thus a quantity of meal from wheat, barley, or oats, whose greatest part is farinaceous, when mixed with a portion of saccharine matter, it falls into the vinous fermentation, and the quantity of inebriating spirit produced is much greater than the saccharine matter alone would have afforded. Certainly, however, continues he, the powers of vegetable life are no way concerned, or necessary to it. It is not during the growth only of the seed that this change can be effected; but a quantity of the sweet matter produced by the growth of the seed, mixed with a quantity of the same seed ground into powder, and the whole mixed with a proper quantity of water, will all become sweet, and fall afterwards into the vinous fermentation, and be changed into spirit in the same manner as if the whole had been previously altered by the vegetation of the seed. Were it not for this property of the farina, great loss would be frequently sustained by the farmers in unfavorable seasons; grain that has once begun to grow, and whose vegetation has been stopped, can never be made to grow again. Such grain can never undergo any farther maling; when grain has been made to grow in this improper manner, it can hardly be supposed that the change into saccharine matter is perfect or complete. It therefore would be less proper for the vinous fermentation, and would furnish a smaller quantity of spirit than grain which had been perfectly malted. This grain, however, when mixed with a quantity of perfect malt, and fermented, furnishes as much spirit as if the whole had been in the state of malt. The persons in this trade even prefer it to an equal quantity of malt; for, in good seasons, when no such half malted or half spoiled grain can be got, they take good grain, reduce it to meal, and mix it with their malt, and are satisfied that they obtain more spirits in this way than from an equal quantity of good malt.

'The writer of this article,' says Dr. Thomson, in the supplement to the *Encyclopædia Britannica*, 'has several times tried the experiment of making ale from unmaltered barley, and found it perfectly practicable. Several precautions, however, are necessary in order to succeed. The water let upon the ground barley in the mash-tun must be considerably below the boiling temperature. For barley meal is much more apt to set than malt, that is, to form a stiff paste, from which no wort will separate. The addition of a portion of the chaff of oats serves very much to prevent this setting of the goods, and facilitates considerably the separation of the wort. Care must likewise be taken to prevent the heat from escaping during the mashing, and the mashing must be continued longer than usual

For it is during the mashing that the starch of the barley is converted into a saccharine matter. This change seems to be owing merely to the chemical combination of a portion of water with the starch of the barley; just as happens when common starch is converted into sugar, by boiling it with very dilute sulphuric acid, or any other acid. This method of brewing from raw grain answers admirably for small beer. In our trials, he adds, the raw barley did not answer so well for making strong ale as for small beer. The ale was perfectly transparent, and we kept it for several years without its running into acidity. But it had a peculiar flavor by no means agreeable. Probably a little practice might have enabled us to get rid of this flavor, in which case, raw grain would answer, in every respect, as well for brewing as malt does.' He further states, that some years ago it was used to a considerable extent by several brewers of small beer in Edinburgh, and their beer was considered as greatly preferable to small beer brewed in the usual manner. But the practice was stopped by a decision of the Court of Exchequer.

The malt distiller always adds to the malted grain, which he ferments, a certain quantity of unmalted corn, nearly ground to powder, and the proportion of unmalted corn has even been gradually so much increased, as to exceed considerably that of the malted grain. This mixture ground to meal is infused with water at a heat considerably lower than that of the water used by the brewers, and much more agitation is resorted to, to mix it completely. The wort is drawn off and cooled in the usual way, and fresh water poured on to exhaust the grain. When the wort is formed it is not so transparent as that from malt, but its taste is nearly as sweet. It would appear, therefore, as Dr. Irvine supposes, that the starch in the raw grain undergoes a certain change during the mashing, and is brought towards the state of saccharine matter gradually, but completely at last.

Far greater facility, however, certainly attends the using of malt alone: the old and rooted opinion is, that the complete germination of the barley in malting is indispensably necessary to fermentation; and the legislature, we see, is determinately hostile to any mixture of unmalted grain, as opening a door to fraud on the revenue. We therefore return to the consideration of the present practice, only observing that here, as in the numerous other restrictions upon the manufactures connected with the excise laws, is another proof of the wretched policy of excessive taxation.

As well as barley, wheat, Indian corn, and oats, as we have intimated in a previous article, have been malted; and it is remarkable that when the seeds of the *zea* mais, or Indian corn, are used for brewing in America, they prepare it by an actual burial in the earth, to revive the germination to a certain stage in the natural way: when it is dug up and kiln-dried after the man-

ner of malt. See *Philosophical Transactions*, XII. 1065.

The *hordeum vulgare*, or barley generally cultivated in England and the south of Scotland, has become, principally from its use in the brewery, the most valuable grain of the country, with the exception of wheat. The Scotch barley (*hordeum hexastichum*), called bear and big, is evidently of the same species, but a more hardy plant, and less kindly for malting. While the grains of barley are much larger, the skin which covers them is thinner, and this skin or cuticle is wholly unprofitable to the maltster and brewer. The thickness of it is said to vary according to the heat of the climate in which it is cultivated, being always thinner in the warmer climate. Thus the cuticle of the Isle of Thanet barley is thinner than that of Norfolk barley, and that of Norfolk barley thinner than that of Berwickshire and Scotland. But if Norfolk barley be sown in Scotland for several successive years, its cuticle is said to become thicker.

The specific gravity of barley has been found in 100 different trials, to vary from 1.333 to 1.250, and that of big from 1.265 to 1.227. The average weight of a Winchester bushel of barley is 50.7 lbs. avoirdupois, and the average weight of a bushel of big 46.383 lbs. The heaviest weighing about 52.265 lbs. per bushel, and the heaviest big 48.586 lbs. The average weight of a grain of barley is 0.6688 grain, or very nearly two-thirds of a grain; the average weight of a grain of big 0.5613 grain. The average length of a grain of barley, from many thousand measurements, 0.345 inch, and that of a grain of big 0.3245 inch. 'So that the average of both,' says an able contemporary, 'would give us very nearly the third of an inch, which it ought to do, according to the origin of our measures, as commonly stated.'

The celebrated Einhoff having carefully analysed the barley-kernel, found in 3840 parts

Of Volatile matter . . .	430
Husk or cuticle . . .	720
Meal	2690
	<hr/>
	3840

From 3840 parts of barley-meal, he obtained :

Volatile matter	360
Albumen	44
Saccharine matter	200
Mucilage	176
Phosphate of lime with mucilage,	9
Gluten	135
Husk, with some gluten and starch,	260
Starch, not quite free from gluten,	2580
Loss	76
	<hr/>
	3840

We are indebted to Dr. Thomson's own able investigations of this subject for the following table :

TABLE OF PROPERTIES OF ENGLISH BARLEY AND SCOTCH BIG COMPARED.

GRAIN.	WEIGHT.		Specific Gravity.	SIZE.		SHAPE.		EQUALITY OF SIZE.												
	In lbs. Avoirdup.			Average Weight of a Corn in grains in Troy.	Average Bulk of a Corn in Cubic Inches.	Average Length in Inches.	Average Breadth in Inches.	Average Thickness in Inches.	Weight of a Corn in Grains.			Length in Inches.		Breadth in Inches.		Thickness in Inches.				
	Per Bush.	Per Boll.							Great-est.	Least.	Differ-ence.	Great-est.	Least.	Differ-ence.	Great-est.	Least.	Differ-ence.	Great-est.	Least.	Differ-ence.
1st Norfolk	50.375	302.250	1.290	0.681	0.00210	0.346	0.145	0.112	0.6954	0.6647	0.0307	0.387	0.318	0.069	0.166	0.128	0.038	0.125	0.092	0.033
1st Kent	49.877	299.262	1.250	0.662	0.00209	0.343	0.142	0.108	0.6775	0.6410	0.0365	0.369	0.287	0.086	0.160	0.116	0.044	0.125	0.087	0.038
1st Suffolk	50.683	304.098		0.639		0.347	0.150													
2d Norfolk	50.570	303.420	1.272	0.665	0.00216	0.344	0.145	0.110	0.6960	0.6940	0.0470	0.384	0.300	0.084	0.159	0.126	0.033	0.120	0.096	0.024
2d Kent	50.062	300.372	1.290	0.637			0.143	0.112												
2d Suffolk	49.250	295.500	1.307	0.601			0.140	0.108	0.6740	0.6250	0.0590	0.362	0.301	0.052	0.154	0.132	0.022	0.116	0.100	0.016
3d Norfolk	51.937	311.622	1.290	0.648	0.00198	0.345	0.141	0.107										0.121	0.083	0.038
3d Essex	47.683	286.098	1.291	0.593		0.333	0.139	0.103	0.6020	0.5830	0.0190	0.369	0.292	0.077	0.155	0.111	0.044	0.125	0.089	0.036
Average	50.054	300.327	1.28	0.640	0.00208	0.343	0.143	0.108	0.6689	0.6415	0.0384	0.370	0.304	0.067	0.160	0.121	0.038	0.123	0.092	0.030
BIG.																				
1st Lanark	48.560	291.360	1.250	0.541	0.00170	0.328	0.133	0.103	0.5508	0.5341	0.0167	0.378	0.278	0.100	0.152	0.116	0.036	0.118	0.087	0.031
1st Perth	48.586	291.516	1.227	0.586	0.00189	0.324	0.136	0.105	0.6142	0.5668	0.0478	0.379	0.274	0.105	0.167	0.108	0.059	0.130	0.086	0.044
1st Dumfries	47.500	285.000	1.246	0.560	0.00177	0.322	0.136	0.108	0.5857	0.5268	0.0607	0.370	0.267	0.103	0.160	0.114	0.046	0.122	0.088	0.034
2d Kirkeudbright	47.031	282.186	1.265	0.558	0.00174	0.324	0.139	0.106	0.5720	0.5520	0.0200	0.356	0.280	0.076	0.155	0.110	0.045	0.119	0.087	0.032
Average	47.919	287.515	1.247	0.561	0.00177	0.324	0.136	0.105	0.5811	0.5449	0.0363	0.370	0.274	0.096	0.158	0.112	0.046	0.122	0.087	0.035

Dr. Thomson was, with Drs. Hope and Coventry, of Edinburgh, commissioned by government, a few years since, to investigate the relative qualities of the Scotch and English barley.

Having traced the brewing of ALE (see that article) through its different stages, we proceed here to treat

3. *Of the process of the London Porter Brewery.*

—Porter brewing has its five successive stages of grinding, or bruising the malt, mashing, boiling, cooling, fermenting, and cleansing; differing in no respect from those of ale, except in the coloring matter employed, and the largeness of the scale on which it is generally conducted.

The origin of this beverage, which has been pronounced by scientific men 'the most perfect of all malt liquors,' is thus given by the editor of the *Picture of London*: 'Prior to the year 1722 the malt liquors in general use were ale, beer, and twopenny, and it was customary for the drinkers of malt liquor to call for a pint or tankard of half-and-half, i. e. half of ale and half of beer; half of ale and half of twopenny; or half of beer and half of twopenny. In course of time it also became the practice to call for a pint or tankard of three threads, meaning a third of ale, beer, and twopenny, and thus the publican had the trouble to go to three casks, and turn three cocks for a pint of liquor. To avoid this trouble and waste, a brewer of the name of Harwood, conceived the idea of making a liquor which should partake of the united flavors of ale, beer, and twopenny. He did so, and succeeded, calling it entire, or entire butt beer, meaning that it was drawn entirely from one cask or butt, and, being a hearty nourishing liquor, it was very suitable for porters and other working people. Hence it obtained its name of porter.'

At one time brown or highly-dried malt only was used in the porter brewery, for the sake of giving the liquor both color and flavor; but malt highly dried being found to contain, from that circumstance, less saccharine or fermentable matter, the paler malt of Hertfordshire has been of late years used, and a patent coloring made from malt and water, or a very dark patent malt, mashed in small quantities, has been added, to give the porter hue. But the proportion of pale and brown malt used in different houses varies. One of the best brewers in London uses nearly two parts pale malt, and one part brown.

Mr. Combrune has thus exhibited the changes of color malt undergoes at different temperatures.

Degrees of heat, Fah.

- 124 Cream colored malt.
- 129 Light yellow do.
- 134 Amber color do.
- 138 High amber color.
- 143 Pale brown do.
- 152 High brown do.
- 157 Brown, inclining to black.
- 162 High brown, speckled with black.
- 167 Blackish brown.
- 171 Color of burnt coffee.
- 176 Black malt.

This table is perhaps not much to be depended on, as the experiments were made in an earthenware pan, placed over a charcoal fire, in which a thermometer was placed half way between the upper surface of the malt and the bottom of the pan; when it is clear that the bottom of the pan must have possessed a much higher temperature than that part of the malt where the thermometer was fixed, and by the stirring of the malt, the whole must have been gradually brought into contact with the heated pan. But Dr. Thomson astonishes us by the assertion, that he has 'taken malt dried at the temperature of 175°, put it into a garden-pot filled with soil, and seen it vegetate apparently as well as raw grain placed in the same situation. It is quite clear that the grain in question was not malted perfectly; the operation of the kiln being known to stop vegetation, which in good malt, as we understand the matter, was never yet renewed.'

The first operation of the brewery upon a large scale is the proper grinding or rather splitting up of the malt; for it is to be made into a coarse grit, and not into a powder. This is effected by introducing the malt between mill-stones, in the manner in which corn is ground, but the stones are set to a greater distance so as not to crush the grain fine, while at the same time they do not permit the smaller grains to escape without being crushed. To prevent this, the ground malt is made to pass through a screen, which separates the uncut grains, and these are broken by being introduced between a pair of iron cylinders. Sometimes the malt is altogether crushed between cylinders, and in this case it is impossible that any grains can escape unbroken. The cuticle of the grain is thus rendered pervious to the water, and the pressure of the cylinder compresses the flour so as to prevent the water from acting on it readily in mashing.

Some breweries use a steel mill, similar to those used for coffee grinding; a mill of this sort ten or twelve inches in diameter, performing 150 revolutions in a minute, will grind six or eight quarters of malt per hour. It cuts the grains in the same manner as the mill-stones; but the malt passing very quickly through the steel mill, the divided parts of the corn are not rubbed to flour, as between the mill-stones. The malt being ground it is suffered to lie for some time in a bin, or cool room, to mellow, as it is called. Brown malt is suffered to mellow from three to four or five days, before it is used, but pale malt only one or two days. Grist thus exposed to the air, it is said, requires less mashing, and the strength of the malt is more perfectly obtained.

Mashing in the large way, is performed in a circular wooden, or cast-iron vessel, called the mash tun, shallow in proportion to its extent, and furnished with a false bottom, perforated with holes. Between the real and false bottom are two side openings, which are generally a few inches asunder, to one is fixed a pipe, for the purpose of conveying hot water into the tun, and to the other another for drawing the liquor out of it. By this means the water rises up through the grist until a proper quantity is introduced,

when the mashing begins. This sometimes is performed by long oars, poles, or iron rakes, mingling the fluid with the farinaceous matter, until they are completely incorporated: but the scale on which the London breweries are conducted has long rendered obsolete all these manipular contrivances, and introduced regular mashing machines. A strong iron screw fixed in the centre of the mash tun is furnished with radii (two or more), also of iron, and armed with vertical iron spikes or teeth, a few inches asunder, in the manner of a double comb. Horses, or a steam-engine, furnish the moving power. The iron radii, which at first rest on the false bottom, are made slowly to revolve upon the central screw, in consequence of which, in proportion as they revolve, they also ascend through the contents of the tun to the surface; then, inverting the circular method, they descend again in the course of a few revolutions to the bottom, mingling in their alternate motions, the grist and the water. After mashing, the tun is generally covered to prevent the escape of heat, and the whole remains untouched, until the insoluble parts separate from the liquor: the drawing-off-pipe is then opened, and the clear liquor runs away.

We need not occupy this part of our work with a repetition of the cautions given on the subject of mashing in the article already often adverted to, on ALE: but only remark here, that this liquor, or wort, as it is now called, of the first mashing, being always by far the richest in saccharine will require and reward the greatest care in obtaining it. To do justice to the malt, a second and even a third mashing is taken; and in some breweries the water employed for the last is simply made to penetrate through the grist by means of a broad shute, of a triangular form, narrow under the cock of the copper, and spreading from ten to fifteen feet wide over the mash tun edge, so as to throw the water over the mash lightly. Thus the mashed grist is very little disturbed, and the water applied drives before it the infusion of the second mash, contained in the grist, through the mash, until, by occupying its space, it extracts a greater strength from the malt, than the ordinary mode of mashing would. The gravity of the worts must regulate, of course, the quantity of liquor employed (for technically all water is liquor in the brewhouse) so as to retain the average density of the two or three worts taken together, according to the length or quantity of beer intended to be brewed. Mashing thus conducted by machinery, generally is completed in about from thirty to forty-five minutes. The temperature and gravities in respectable establishments are carefully noted at stated times in the brewing-book.

Cloudy worts indicate a too high temperature. If the heat of the water is not above 185°, there is nothing to fear; in practice, however, it seldom exceeds 160° or 170°. At 198° most worts are cloudy. See ALE. In regard to porter brewing, it may be observed, that the higher the color of the malt, the less is its tendency to set, because high dried malt contains a less portion of undecomposed starch than pale or amber malt; of course we may mash with water of a higher tem-

perature. Though it has often been discussed, it seems practically of little consequence, whether rain, river, or spring water, be employed in the larger brewing operations. Mr. Accum analysed that used by Messrs. Truman and Co. and found it to possess all the characters of pump water; the reader, as he says, need not be reminded that the beer brewed at that establishment is inferior to none.

For heating the water and *boiling* the wort, large establishments use a copper crowned with a hemispherical dome; surrounded by a pan which will contain a succeeding wort, or the water for a succeeding mash. The liquor is generally boiled by steam in the following way:—From the centre of the dome rises a perpendicular pipe, and from the upper extremity of this pipe four inclined pipes descend, the lower extremities of which terminate near the bottom of the pan, and consequently in the water or wort contained therein. By this contrivance, the steam which rises from the copper must bubble up through the fluid in the pan, and speedily heat it. The advantages of this contrivance are, that, the instant the copper is emptied, a fresh supply of fluid can be let in to cover the bottom of it, in order to prevent the intense heat of the fire injuring the vessel; while the successive fluids are heated by one fire.

As to *hopping*, we need only here observe, that the quantity of hops is regulated by the strength of the wort, and the time the beer is intended to keep. Generally from 1½ to 1¾ lb. or even 2 lbs. of hops are boiled with every bushel of malt; but, for strong ale or porter, the quantity is sometimes higher. After the first boiling with hops, the liquor is let off, and the wort is conveyed into the jack or hop-back, furnished generally with a cast-iron floor full of holes, so as to drain the wort from the hops. Then those left in the jack-back are filled, by men, into tubs, which are drawn up by a tackle worked by the engine, and again boiled in the copper with the second and third worts. Sometimes an axis passes perpendicularly through the copper, furnished at the end with horizontal arms, from which chains are suspended in loops, and which stir up the hops at the bottom of the copper when the axis is made to revolve. This apparatus is called a *rowser*. The following table, extracted from Mr. Richardson's work on the use of the Saccharometer, exhibits the quantity of wort imbibed in boiling by different quantities of hops:—

Hops	Wort	Hops	Wort	Hops	Wort	Hops	Wort
used.	imbib.	used.	imbib.	used.	imbib.	used.	imbib.
1	0.01	11	0.17	30	0.50	400	6.56
2	0.03	12	0.19	40	0.66	500	8.33
3	0.05	13	0.21	50	0.83	600	10.00
4	0.06	14	0.22	60	1.00	700	11.66
5	0.08	15	0.24	70	1.16	800	13.33
6	0.10	16	0.26	80	1.33	900	15.00
7	0.11	17	0.27	90	1.50	1000	16.66
8	0.13	18	0.29	100	1.66	2000	33.30
9	0.15	19	0.31	200	3.33	3000	50.00
10	0.16	20	0.33	300	5.00	4000	66.66

The porter brewers generally prefer hops of a brown color.

Cooling, of course, is a process of great importance, and must be conducted on a scale proportionate to our other operations. Nothing yet has been found to supersede the use of large shallow wooden troughs or floors, edged with a wooden ledge, and water-tight; the most exposed situation that the premises will afford being chosen, so that a free current of air may at all seasons be brought over them. To perform it expeditiously, so that the taint of foxing may not ensue in this process, the wort should only be laid at such a depth in the coolers, as will allow it to cool in about seven or eight hours to sixty degrees, which, generally speaking, is about the average temperature for pitching or setting to work. To effect this, in summer, the wort should certainly not be laid at a greater depth than one, two, or three inches; in winter, it may be as deep as five inches. The evaporation that results, on the liquor being conveyed into the coolers, is a great object of the scientific brewer's attention.

On the still more important point of *fermentation*, we have little to add to our previous remarks. In the brewing of porter, which is generally intended to be full bodied (hard), the fermentation must be suffered to proceed slowly, as far as it is consistent with the richness of the wort; if the beer is intended to be rather brisk, the fermentation is the sooner stopped. Ordinarily ale and porter, of which the specific gravity of the wort amounts to 17.25 lbs. per barrel, or 18 lbs. per barrel, requires the fermenting process to be stopped when the specific gravity is reduced to 7, 8, or 9 lbs. per barrel: but scarcely any general rules can here be given. The diminution of the specific gravity is, in some breweries, suffered to proceed to a much greater extent than in others: observation must be directed to the head of the yeast. When the fermentation is brisk, it soon begins to turn of a compact brown color, and becomes rapidly more colored and dense, so that it would fall back into the beer; at this period the fermentation is nearly finished.

'During the process of fermentation,' says an able chemist, 'a large quantity of carbonic acid gas is disengaged; the noxious effect of this gas has been long known, it produces suffocation when taken in the lungs. Being heavier than the air of the atmosphere, it floats on the surface of the fermenting fluid, and occupies, when it overflows the vessel, the lowest parts of the place in which fermentation is carried on. This gas appears to be the only product of fermentation to which we are indebted for all the remarkable changes by which the sweet or saccharine matter of the wort is converted into a vinous fluid. The superfluous carbon of the sweet substance, and a portion of the oxygen, combine to create it, while the balance of principles which remain, becomes capable of generating the ardent spirit, or alcohol. It is, therefore, a necessary consequence of the process of fermentation, but it is not equally necessary that it should be disengaged and separated from the beer, for a large portion of it remains combined with it. It holds a portion of alcohol, in a state either of mixture or combination, of which the true chemical nature has not been well ascertained. This is a question of some difficulty, as well as of importance in a

chemical point of view, but as yet no experiments have been suggested capable of setting it at rest.'

Dr. Thomson complains of the difficulty of ascertaining with accuracy the strength of the worts in the London brewery. In some breweries, as in that of Messrs. Barclay and Perkins, there are three separate mash-tuns. In others, the custom is to mash one kind of malt the first day, another the second, and a third kind the third day. The first day's wort is put into the fermenting vessel, and mixed with yeast; and the other two worts are added to it as they are formed successively. Their strength, therefore, could only be ascertained by knowing the quantity of wort from each malt, and its specific gravity when let into the fermenting vessel. After, in this way, examining the porter wort in the principal breweries in London, he says the average specific gravity of brown-stout wort is 1.0624. The wort of the best common porter is of the specific gravity 1.0535; that of the worst or weakest is as low as 1.0374. The average specific gravity deduced from twenty brewings, was 1.0500. Such wort contains about 46.4 lbs. per barrel of saccharine matter. Judging from the taste of some of the worts, quassia, says Dr. T. seems to be employed in considerable quantity by some of the brewers, and much more sparingly, if at all, by others. The fermentation of porter is carried on with considerable rapidity, so that it is over in two or three days. The specific gravity of the porter is usually brought down to 1.013 or 1.017. That of the best brown-stout, after standing some months in the bottle, is 1.0106.

We know of nothing that distinguishes the mode of cleansing porter from that of cleansing ale, except, perhaps, better mechanical contrivances, according to the size of the breweries. In some breweries, the method of cleansing beer by means of large barrels or rounds, is practised throughout the year. Sometimes it is stored in casks, which are bunged up and removed into the storehouse, but daily examined, and occasionally allowed a little vent, especially in warm weather; or the beer is pumped into a cistern, and from thence into the store-vats, which are from eighteen to forty feet in diameter, and from eighteen to twenty feet high; they will frequently hold from 5,000 to 6,000 barrels. Large arched vaults, built of stone, and lined with stucco, have been, at some establishments, adopted for storing the beer. These contribute greatly to the amelioration of the beer by age, in consequence of the uniform temperature which fluids in such masses preserve. These vats are always placed in the coolest part of the establishment; are made air-tight, and furnished with safety valves, excellent piping, cocks, &c.

For the use of the saccharometer in brewing. See SACCCHAROMETER.

For finings in filling up the casks. See ALE and FININGS.

By law, every barrel of beer or ale, brewed by the public brewers in Great Britain, whether within or without the bills of mortality, is to contain thirty-six gallons, according to the standard ale quart kept in the Exchequer; 43 Geo. III. c. 69.

But nothing herein is to extend to alter the quantity to be returned, as and for a barrel of beer or ale brewed by any victualler or retailer, or any person other than a common brewer, who



Fig. 1.

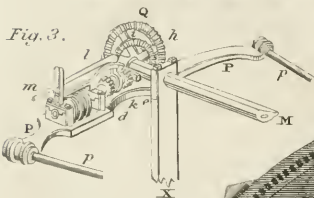
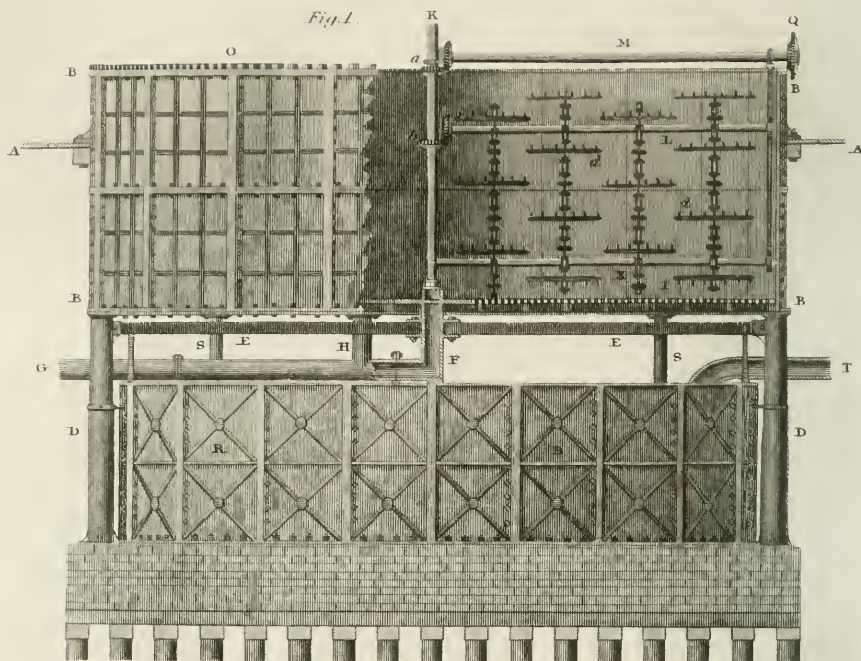
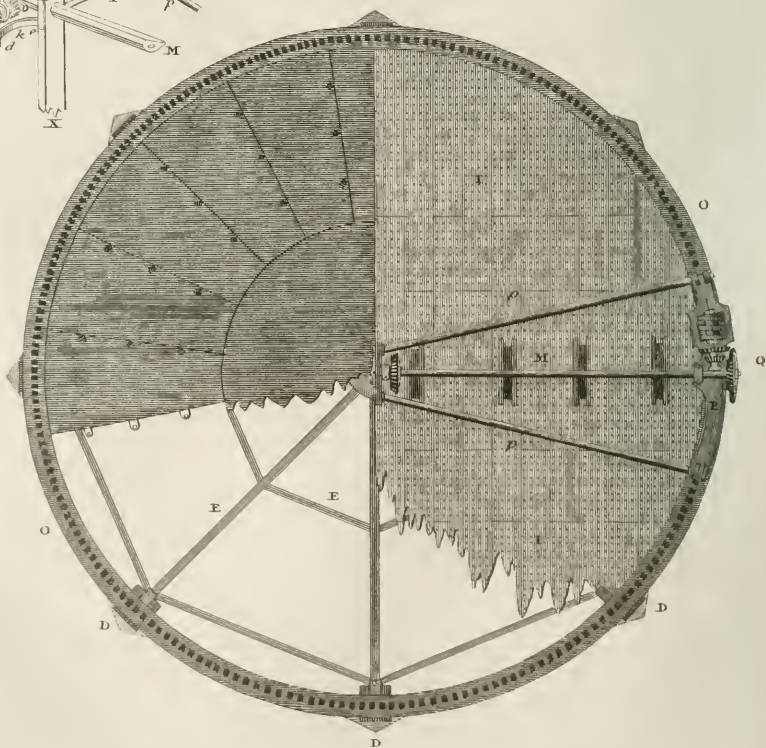


Fig. 2.



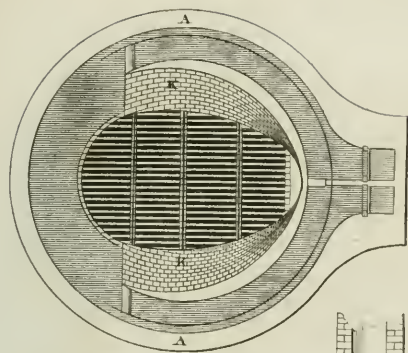
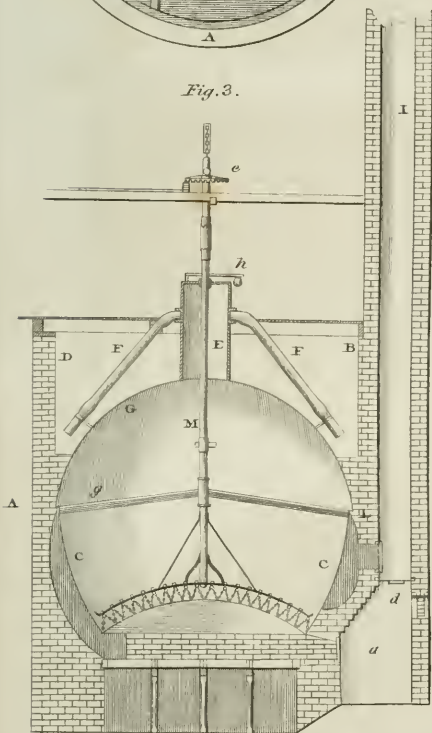


Fig. 3.



100 200 300 400 500 Inches
Scale of Inches

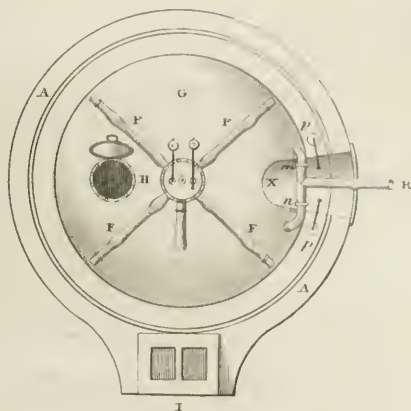


Fig. 4.

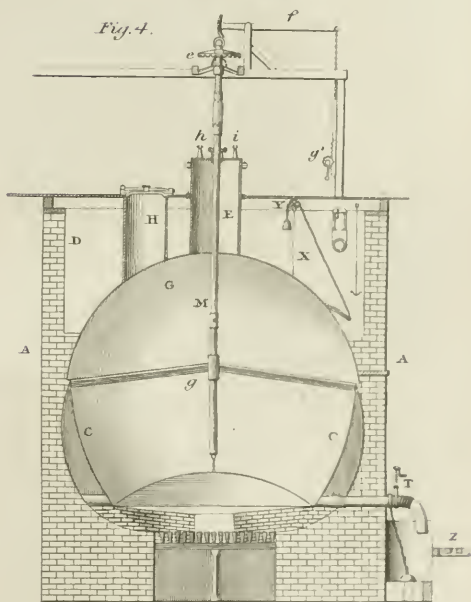


Fig. 5.

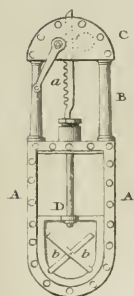


Fig. 6.

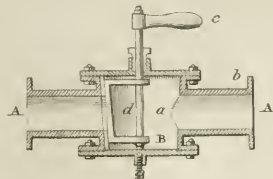


Fig. 7.

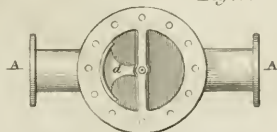


Fig. 8.

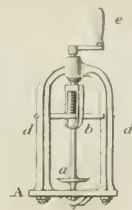


Fig. 10.

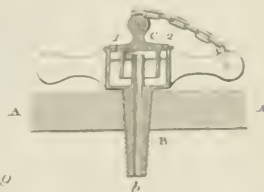
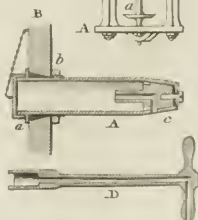
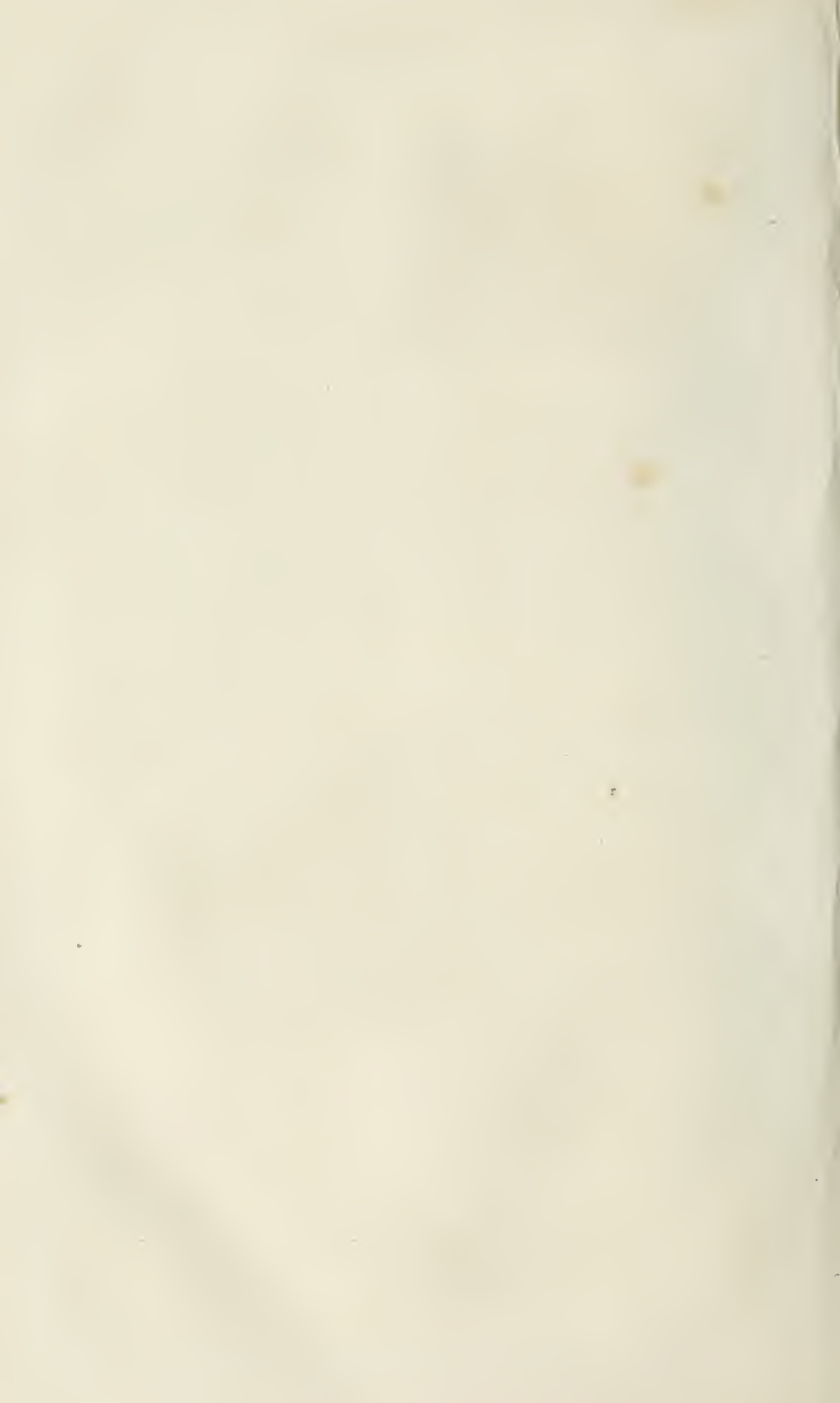


Fig. 9.





shall sell, or tap out beer or ale publicly or privately, but the same shall remain as declared by the statute. 1 William and Mary, ses. 1. c. 24.

Within the bills of mortality, every barrel of beer is to contain thirty-six gallons, according to the new standard ale quart kept in the Exchequer; and every barrel of ale thirty-two gallons. 12 Chas. II. c. 53; 1 Will. & Mary, ses. 1. c. 24, &c.

Out of the said limits, every barrel of beer or ale, whether strong or small, is to contain thirty-four gallons, according to the aforementioned standard. 1 William and Mary, ses. 1. c. 24.

The adulterating strong beer, porter, or ale, with small beer, is prohibited by law, since both the revenue and the public suffer by it. The revenue suffers, because a larger quantity of beer is sold as strong beer; that is, at a price exceeding the price of table beer, without the strong beer duty being paid. In the next place, the brewer suffers, because the retailer gets table or mild beer, and retails it as strong beer. The following are the words of the Act, prohibiting the brewers mixing table beer with strong beer:— ‘If any common brewer shall mix, or suffer to be mixed, any strong beer, or strong worts with table beer or table worts, or with water in any guile or fermenting tun after the declaration of the quantity of such guile shall have been made; or if he shall at any time mix, or suffer to be mixed, strong beer or strong worts with table beer worts or with water, in any vat, cask, tub, measures, or utensil, not being an entered guile or fermenting tun, he shall forfeit £200.

‘If any common or other brewer, inn-keeper, victualler, or retailer of beer or ale shall mix, or suffer to be mixed, any strong beer, or ale worts, with table beer worts, or water, in any tub or measure, he shall forfeit £50.’ The difference between strong and table beer, is thus settled by Parliament. ‘All beer or ale above the price of eighteen shillings per barrel, exclusive of ale duties now payable (viz. ten shillings per barrel), or that may be hereafter payable in respect thereof, shall be deemed strong beer or ale; and all beer of the price of eighteen shillings the barrel or under, exclusive of the duty payable (viz. two shillings per barrel) in respect thereof shall be deemed table beer within the meaning of this and all other Acts now in force, or that may hereafter be passed in relation to beer or ale or any duties thereon.’ 59 Geo. III. c. 53, sect. 25.

The gross annual receipt, in money, received by the Excise for beer brewed, and malt and hops, in the united kingdom for the year ending 5th Jan. 1820, amounted to £5,997,216. 3s. 10 $\frac{3}{4}$ d.

IN ENGLAND.		£	s.	d.
The Excise for beer . . .	2,924,260	13	2 $\frac{1}{2}$	
Ditto for malt . . .	1,204,549	9	3 $\frac{3}{4}$	
Ditto ditto temporary tax, 43 Geo. III. c. 81 . . .	967	15	10 $\frac{1}{2}$	
Ditto ditto annual additional duty, commenced Mar. 26	898,364	15	3 $\frac{1}{2}$	
Ditto ditto old, commenced June 24 . . .	512,076	8	9 $\frac{1}{2}$	
Ditto ditto old, commenced July 5 . . .	46,289	10	8	
Total . . .	£5,586,508	13	1 $\frac{1}{2}$	

VOL. IV.

IN SCOTLAND.

The Excise for beer . . .	82,471	3	4 $\frac{1}{2}$
Ditto for malt . . .	86,029	11	2 $\frac{1}{4}$
Ditto ditto, terminating July 23, 1817 . . .	17,853	11	3 $\frac{1}{2}$
Ditto ditto, Nov. 25, 1819 . . .	29,347	13	11
Ditto ditto, July 5, 1820 . . .	3,403	7	5
Total . . .	£219,105	12	2 $\frac{1}{4}$

IN IRELAND.

The excise for malt . . . 191,601 18 6 $\frac{1}{2}$

We come now to give, lastly, *A practical description of a London Brewery*.—In doing which, we shall suppose our reader again to travel with us through the principal operations. Fig. 1, 2, BREWING, plate I, is the elevation and bottom of the mash tun, formed of cast iron or vertical staves bound by iron hoops. It has a false bottom, a few inches above the real bottom, pierced, as we have described, with a number of small holes, to admit the liquor, but retain the malt. The liquor is brought by a pipe into the tun beneath the false bottom, and forces its way up through the goods. Fig. 1. Shows the elevation of it; as also the underback beneath; one half of the tun being represented in section, to show the machine within it. AA, fig. 1, is the level of the stage or floor in which the mash tun is placed. BB BB is the tun, formed of a number of pannells of cast iron plates screwed together. The disposition of these in the bottom is shown by the plans in fig. 2. The tun is supported upon eight cast-iron columns, DD, which are united at the upper ends by an iron framing E, which confines them in a vertical position, and connects them with a central column F, shown by dotted lines in fig. 1, at the upper end. This is cast hollow, to form the continuation of a pipe G, which brings the liquor into the tun from the copper. This pipe has also another branch, H, conveying the liquor up into the tun, beneath the false bottom I, which is the only part of this machine made of wood. In the centre of the tun a vertical axis, K, is set up and turned round by wheelwork communicating with the upper end of it. Upon this axis are two bevelled wheels, a and b, giving motion to the mashing engine. These wheels turn two horizontal axes L, M, extending from the centre to the circumference of the tun. The former has four wheels upon it, over which pass four endless chains, which also pass round wheels upon a horizontal axis, N, near the bottom of the tun. Upon the endless chain, cross pieces of iron, d, are fixed; and these have teeth in them, which, as the chains revolve by the action of the wheel b, raise up the malt from the bottom of the tun to the top of the mass of malt. That this stirring may be performed in all parts of the tun, the frame containing the axes L, M, N, has a progressive motion round the tun by the following means: On the kirk or upper edge of the tun is a ring of teeth O O, shown in the plan. These are engaged by an endless screw, which is mounted in a frame P, and shown in perspective in fig. 3. This screw has a rotatory motion, given it by a wheel Q on the extreme end of the axis M, which turns
2 M

pinions *d, e*, on the axis of the screw. The wheel has two rings of cogs *h* and *i* upon its face, one about $\frac{2}{3}$ ds the size of the other. Each engages its pinion *d* and *e* on the spindle of the screw; neither of which are fixed to this spindle, but are at liberty to slip freely round it. Between the pinions is a circular plate, *k*, fitted upon the axis with a fillet, so that it must revolve with it. This plate has studs projecting from both sides, and the pinions have similar studs. Now when the plate *k* is thrust towards either of the pinions, by means of a lever *l*, it causes the axis and screw to revolve with the same velocity that the pinion has; and as the pinions have different velocities, from being turned by two different rings of teeth, it follows, that, by raising or depressing the end *m* of the lever *l*, the screw may be turned with either of these velocities at pleasure, and thus cause the machine to make the circuit of the tun in a greater or less time. The extreme ends of the two axes *L, N*, are supported in an iron arm, fixed to the iron frame *P* of the screw, which runs upon the edge of the tun with four rollers. From this frame two rods *p, p*, fig. 1, extend to a frame which surrounds the central axis, and supports the central axis by a collar at its upper end, and the lower point of the axis is fitted into a socket made through the frame.

The underback, *R R*, is placed between the eight iron columns, upon brickwork, supported upon bearing piles, is formed of cast iron plates, united by screws, in the same manner as the mash tun, and as is explained in the figures. The plates are flat on the inside, but have flanches all round the outside, and ribs across to strengthen them. This is shown by representing part of the plates as removed. The wort is drawn off from the mash tun by eight cocks in the bottom, two of which are shown at *SS*, fig. 1. They allow the wort to flow into the underback, whence it is drawn by a pump, the suction tube for which is marked *T*.

Figs. 1, 2, 3, and 4, BREWING, plate II, are different sections of a close copper, which contains say 250 barrels. *AA*, in all the figures, denotes the external brickwork, which is a cylindrical wall, built upon the arches. In the lower part of this is the ash pit *B*, and the fire-grate placed over it, being partly supported by iron pillars. *CCC* is the copper, hung in the brickwork by a projecting ring of a few inches, at the place where the hemispherical dome *G* joins upon it. The dome is surrounded by a copper from *DD*, to contain the water which is intended for the succeeding mash, or afterwards for the wort produced by the mash. This liquor is heated with the steam produced by the copper, which is conducted up a large tube *E*, rising from the centre of the dome. To the top of this four smaller pipes *F F*, figs. 2 and 3 are joined, turning down to the bottom of the pan, and open at their lower extremities, by which means the steam is conducted beneath the liquor contained in the pan, and by bubbling up through it, soon communicates to it a considerable degree of heat. A recess is made at *X*, figs. 2 and 4, in the copper pan, to expose the dome *G*; and in this place is the man hole for entering to the copper. Another of these man holes is provided in the top

of the copper, at the upper end of a large tube *H*, figs. 2 and 4, rising from the dome. *I* is the chimney to the copper, situated over the fire door *a*, fig. 3, and the chimney has an arch in it, to give passage to the fire door. The course of the flues is shown in fig. 1, which is a horizontal section, taken a little above the level of the grate-bars, upon which the fire rests. On each side of this grate a jamb of brickwork *K, K*, is built. This supports the bottom of the copper, and compels the flame and smoke to go backwards, and surround the copper, by rising up in the dark space shown in figs. 3 and 4. It then turns round in the two semicircular passages over and behind the jambs *K K*, fig. 1, and enters the chimney by the opening at *L*, fig. 3. The chimney is double, having a partition up the centre, which divides it into passages, one of which is appropriated to each flue. The opening *L* is furnished with an iron door, which can be closed at pleasure; and the bottom of the chimneys are likewise shut by iron doors at *d*, fig. 3, which slide back horizontally when they are required to be open. By means of these doors the stoker, or fire-man, can at all times regulate the draught of the fire; for by throwing open the doors *d, e*, and at the same time opening the fire-door at *a* in front, the draught is nearly destroyed, as the cold air passes directly up the chimney without going through the fire; and, by closing the door *L*, the draught is totally stopped, and the fire soon extinguished. In the centre of the copper a spindle *M* is fixed, passing through a tight stuffing box. At the top of the tube *E*, and above this, it has a cog wheel *e*, by which the spindle is turned round. On the lower end of the spindle a cross bar is fixed, and secured by stays, and short pieces of chain are suspended from it, which drag the bottom of the copper when the spindle is turned round, and stir the hops so as to prevent their burning, which they would do if suffered to rest on the bottom. This apparatus, which is called the rowser, is suspended by a swivel at the top of the spindle, from a lever *f*, the opposite end of which is drawn down by a rack and pinion *g*. This raises the rowser from the bottom of the copper, when it is not in use, and at the same time disengages the wheel *e* from its pinion, which is kept in continual motion by the engine. Cast iron braces *g, g*, are fixed across the copper, to support the spindle of the rowser. In the top of the tube *E* is a safety valve, loaded with a weight *h*, to permit the escape of the steam if it should become so strong as to endanger the copper; and by the side of it is another, *i*, which opens, and admits air, if a condensation of the steam should produce a vacuum in the copper. The man holes are closed by lids, which are quite steam tight, and can be quickly opened and shut. The door is of cast iron, and has a ring projecting from its under surface to drop into the ring to which the flat surface of the lid is fitted. The lid is hung by a joint, loosely fitted, and is kept down tight by the pressure of a strong screw. This screw is held over the centre of it by a cross bar fixed to the ring by a joint pin at the end, while the other end slips under a kind of staple. When the central screw

is slackened, the bar can be turned about upon its centre, to remove it from the lid, which can then be opened upon the joint. A balance weight is applied to take off the weight of the lid, as shown at Y, fig. 4; and within the lid is a smaller one of brass, which is fitted in the same manner; and which is removed to introduce the thermometer or a gauge, for the purpose of ascertaining the quantity of liquor in the copper, without the trouble of moving the great lid, which is only opened to allow men to go into the copper to clean it, while the upper man hole, H, is only used to put in the hops. The copper is filled by a pipe from the liquor-back, as before-mentioned. The pipe R, fig. 2, divides into two branches, each of which is provided with a sluice cock, *m* and *n*, just before the branches enter the pan from the recess X. The branch *m* delivers its contents into the pan, but *n* turns down, and is soldered to the dome of the copper. The pan can be emptied into the copper by two valves, *p, p*, fig. 2, in the bottom of it, which are drawn by iron rods and levers reaching over into the recess X.

It is said that the first pan was placed over the copper, for the purpose of heating one liquor by the other, by Mr. Goodwynne, about 1780; but the steam did not in this case pass through the water. About five years afterwards, Mr. Bramah erected a copper at Harford's brewery, with a dome and steam pipes, as in our plate, fig. 3, except that the pipes F were hung by joints from the great central pipe, so as to rise and fall similar to an umbrella; and, a float being attached to the end of each pipe, the steam always passed out under the same pressure of water, whether the pan was full or not, as the floats always kept the mouths of the pipes at the same depth beneath the surface; at the same time, this depth could be readily adjusted by altering the floats, so as to increase or diminish at pleasure the pressure of the steam in the copper; a construction, which having been found to succeed, is now common.

In fig. 5, of plate II., is a sluice-cock, where AA is a cast-iron frame having two pillars B rising from it, to support a frame C, which contains a pinion for raising the rack *a*, and drawing the slider D, which stops the bore of the pipe. A flat plate of cast iron is screwed against each side of the frame A, forming a thin box, in which the slider rises and falls. Each of these plates has a short pipe projecting from it, to connect with the pipe, which the sluice is intended to shut up. One of these plates is ground flat, and the slider D is fitted and ground against it, so as to slide freely, but to fit perfectly water tight. On the opposite side of the slider two steel springs *b b* are bolted. The ends of these act against the other flat plate, in order to press the slider against its fitting, and keep it close. The slider D is connected with the rack by a smooth cylindrical iron rod attached to both, and passing through a stuffing box in the top of the frame A, which is fitted so closely round it with hemp, as to prevent the escape of any fluid by its sides. This kind of sluice-cock, of very general use in the brewery, is also the least expensive;—an object worthy of attention, when

large brass cocks, such as are sometimes used for coppers, cost from thirty to forty pounds. A Mr. Rowntree has constructed some stop-cocks of the form shown, figs. 6 and 7, where AA are the flanches for connecting the cock with the pipe, B a chamber, in the centre of which is a spindle *a*, passing through a stuffing box in the lid *b*, and having a handle *c* to turn it round. Upon this spindle a sector of brass, *d*, is fixed, and when turned about, it either closes or opens at pleasure the opening of the pipe. A piece of brass is screwed into the chamber, for the sector to fit against, and they are ground together till they are perfectly tight, by which means the friction is inconsiderable.

Fig. 8 represents an effectual substitute for a cock in many parts of a brewery, particularly at the bottom of the coolers or backs. A is a brass valve seat, which has a conical valve *a*, exactly fitting the seat, and closing its aperture when shut. The seat is fixed down in the wooden bottom of the back by small screws; and from the seat rises two iron bars, *d, d*, uniting at top, and supporting a screw, which is turned round by a handle, *e*. The shank *b*, of the valve *a*, has an opening through it, and above this the screw is tapped into it. This opening receives a cross bar of the frame *d*, which, at the same time that it sustains the lower pivot of the screw, prevents the valve shank, *b*, from turning round with the screw, which will raise or lower the valve at pleasure.

Fig. 9 is another cock of Mr. Bramah's, called a taster; to be put in a store vat for tasting the beer. It is a brass tube, A, with a shoulder, *a*, which is the only projection on the outside of the vat, and is held in by a nut, *b*, screwed upon it on the inside of the stave, B, of the vat. In the end of the tube is a plug, *c*, ground and fitted in, and having a hole in one side. The key, D, of the cock, which is bored through the shank, and also through one of the ends of the cross handle, being introduced into the cock, fits upon a square, a triangle, a circle, or any other figure, at the end of the plug; and when the key is turned round, so that the handle is upright, the cock is open, and the beer will flow through the handle as a spout. This cock cannot be opened without a key.

Fig. 10 is Mr. Bramah's vent-peg, to be put into the head of a cask when the liquor is drawn off, in order to admit the proper quantity of air, to allow the liquor to run. AA is a section of the head of the cask, in which a taper screw, B, is placed for fastening the apparatus. The upper end of the screw is of large dimensions, and turned out into a cup of a cylindrical form, with a stud or pin rising up in the middle. A hole is drilled through the centre of the peg, to communicate with the interior of the cask at *b*. The cavity surrounding the stud being filled with water, the cap or thimble, C, must be inverted, and dropped into the rabbet, which is turned in the top of the peg. Small holes are drilled round in the cap at 1 and 2, to admit the air freely; and as the lower edge of the cup is immersed in the water round the stud, nearly to the bottom of the cup, the ingress or egress of the air will be prevented, except when the pressure of the air is augmented by drawing the liquor out

of the cask. It is very useful to prevent the liquor in drawing becoming flat or vapid from exposure.

Fig. 1, plate III, is a representation of the beautiful and complete fermenting-house at the brewery of Messrs. Whitbread and Co. Chiswell-street. It was erected after the plan of Mr. Richardson, who conducts the brewing department of that celebrated establishment. R is the pipe which leads from the different coolers to convey the wort to the great fermenting-vessels or squares M, of which there are two, one behind the other; *f**f* represents a part of the great pipe which conveys all the water from the well up to the water cistern at the top of the works. This pipe is conducted up the wall of the fermenting-house, and has a cock in it, near R, to stop the passage. Just beneath this passage a branch-pipe, *p*, proceeds and enters a large pipe *xx*, which has the former pipe *r*, within it. From the end of the pipe *x*, nearest to the squares M, another branch *nm* proceeds, and returns to the original pipe *f*, with a cock to regulate it. The object of this arrangement is to make all, or any part of, the cold water flow through the pipe *xx*, so as to surround the wort-pipe *r*, which is only made of thin copper, and lower the temperature of the wort passing through the pipe *r*, until, by the thermometer, it is found to have the exact temperature which is desirable, before it is put to ferment in the great square M. By means of the cocks at *n* and *p*, the quantity of cold water which shall pass in contact with the surface of the pipe R, can be regulated at pleasure, so as to have a command of the heat of the wort when it enters into the square. When the first fermentation in the squares M is finished, the beer is drawn off from them by pipes marked *v*, and conducted by its branches, *w*, to the different rows of fermenting tuns marked N, which fill all the building. Between every two rows are placed large troughs, to contain the yeast which they throw off. The representation shows the small tuns all placed on a lower level than the bottom of the great vessels M, so that the beer will flow into them, and, by standing in them all, will fill them to the same level. When they are filled the communication-cock is shut; but, as the working off of the yeast diminishes the quantity of beer in each vessel, it is necessary to fill them up again. For this purpose, the two large vats O O are filled from the great vessels M, before any beer is drawn off into the small casks N, and this quantity of beer is reserved at the higher level for filling up. The two vessels O O are, in reality, placed between the two squares M, but we have been obliged to place them so that they can be seen. Near each filling-up tun *o* is a cistern *t*, with a pipe of communication from the tun O, and this pipe is closed by a float-valve. The small cisterns *t* have always a communication with the pipes, which lead to the small fermenting vessels N; and therefore the surface of the beer in all the tuns and in the cisterns will always be at the same level; and, as this level subsides by the working off of the yeast from the tuns, the float sinks and opens the valve, so as to admit a sufficiency of beer from the filling up tuns *o*, to re-

store the surfaces of the beer in all the tuns, and also in the cistern *t*, to the original level. In order to carry off the yeast which is produced by the fermentation of the beer in the tuns O O, an iron dish or vessel is made to float upon the surface of the beer which they contain; and from the centre of this dish a pipe, *o*, descends, and passes through the bottom of the tun, being filled through a collar of leather, so as to be tight, at the same time that it is at liberty to slide down as the surface of the beer descends in the tun. Over the edge of this dish the yeast flows to a trough beneath, and is conveyed down the pipe.

Under the fermenting-house are noble arched vaults P, built of stone, and lined with stucco. Into these the beer is let down when sufficiently fermented, and is kept till wanted: being beneath the surface of the earth they possess great equality of temperature.

Figs. 2, and 3, are malt-rollers, or machinery for bruising the malt. A is the hopper, into which the malt is let down from the malt-loft above; and from this the malt is let out gradually through a sluice or sliding-shuttle *a*, and falls between the rollers B D. These rollers are made of iron, truly cylindrical, and their pivots are received in pieces of brass let into iron frames, which are bolted down to the wooden frame of the machine. A screw, E, is lapped through the end of each of these iron frames, and by these screws the brasses can be forced forwards, and the rollers made to work closer to each other, so as to bruise the malt in a greater degree. G is the shaft by which one of the rollers is turned; and the other receives its motion by means of a pair of equal cog-wheels H, which are fixed upon the ends of the pivots, at the opposite ends of each of the rollers: *d* is a small lever, which bears upon the teeth of one of these cog-wheels, and is thereby lifted up every time a cog passes. This lever is fixed on the extremity of an axis, which passes across the wood frame; and in the middle of it has a lever *c*, fig. 2, bearing up a trough *b*, which hangs under the opening of the hopper A. By this means the trough *b* is constantly jogged, and shakes down the malt regularly from the hopper A, and lets it fall between the rollers: *e* is a scraper of iron plate, which is always made to bear against the surface of the roller by a weight, to remove the grains which adhere to the roller.

BREWIS. Ang.-Sax. *briu*; Teut. *brosam*; Welsh *brywes*; Scot. *brose*. See BROTH. Bread soaked in fat potage; and also the potage itself.

What an ocean of *brevis* shall I swim in!

Beaumont's and Fletcher's Dioclesian.

BREYNIA, in botany, a genus of class polygamia, order triœcia: CAL. six-parted: COR. none: ANTH. five: STG. five; berry three-celled: SEEDS two. Species only one. *B. disticha*, a native of New South Wales.

BRIANCON, a noted town of France in the department of the Upper Alps, and ci-devant province of Dauphiné. It has a fine bridge over the Durance, 180 feet high, a strong castle on a steep rock, and other defences. It lies seventeen miles north-west of Embrun, and forty-five east of Grenoble.

Fig. 1.

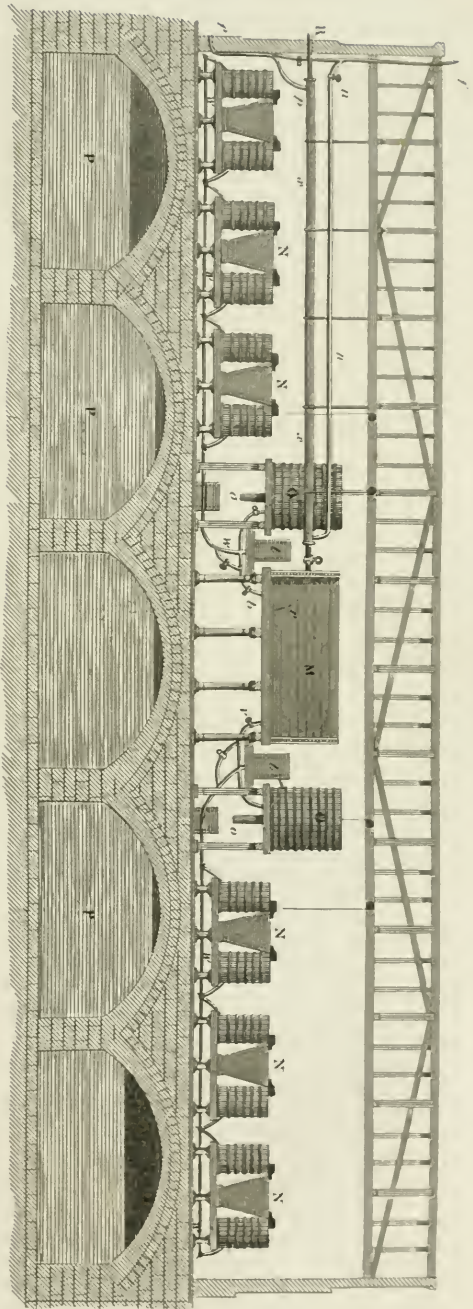


Fig. 2.

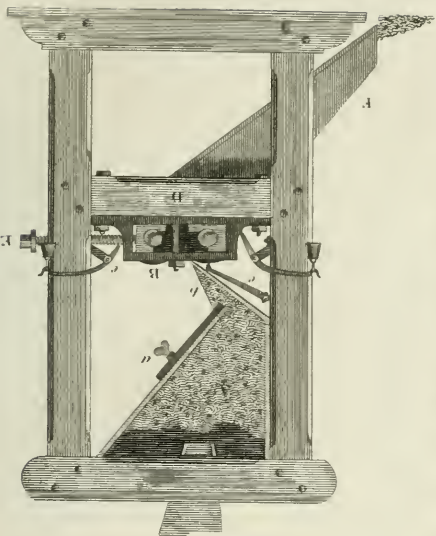
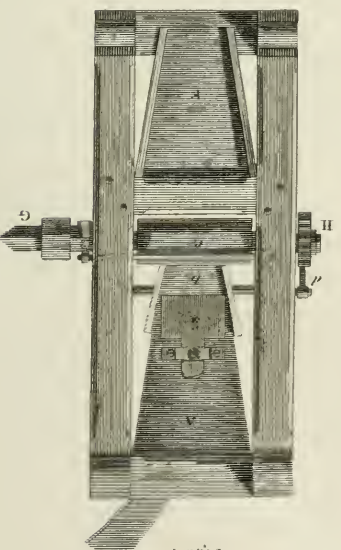


Fig. 3.





BRIANCONNOIS, a ci-devant territory of France, in Dauphiné, which was bounded by Grenoblois, Gapençois, Embrunois, Piedmont, and Savoy. It comprehends several valleys, which lie among the mountains of the Alps: and though it is extremely cold, yet it is fertile in corn and pastures. Briançon is the capital town. Manna is gathered near it, on the leaves and branches of a species of pine; incisions in it yield large quantities. The chief road from France to Italy passes through it. It is now comprehended in the department of the Upper Alps.

BRIAREUS, in fabulous history, a giant, the son of Æther, Titan, or Cælus and Terra. This was his name in heaven; on earth he was called Ægeon. He was of singular service to Jupiter, when Juno, Pallas, Neptune, and the rest of the gods, endeavoured to bind him in chains and dethrone him. Afterwards, however, he conspired with the rest of his gigantic brethren to dethrone Jupiter. Virgil, on this occasion, describes him as having 100 hands, fifty heads, and breathing out fire. The fable says, that Jupiter, to punish him, threw him under mount Ætna, which, as often as he moves, belches out fire.

BRIBE, *v. & n.* } Goth. *bryfæ*; Sax. *bred*
BRI'ING, } *fæ*; that is a perverting
BRI'BER, } fee or gift, something
BRI'B'ERY, } added to the simple demands of justice, with a view to influence its decisions; a boon to prevent honesty, given to the worthless in high places; the sop, which when a man takes, the devil enters into him, and he is ready to betray his king, his country, or his God. See *Minutes of Evidence before the House of Commons*—Article **IRISH MAGISTRACY**. The Glossary to Chaucer, thus explains this word, as used by the father of our tongue, or in his time: 'Briborie,' says he, 'seems to signify a thief; briben,' he adds, 'may mean to decoy; while a bribe is probably what is given to a beggar; what is given to an extortioner or cheat.'

Who saveth a thefe when the rope is knet,
 With some false turne the *briboir* will him quite.
Lydg. Tra. 152.

This sompnour, waiting ever on a day,
 Rode forth to sompne a evidence, an old ribibe
 Feining a cause, for he wold han a *bribe*.
Chaucer's Canterbury Tales.

And,—for ther n'is no thefe without a louke,
 That helpeth him to wasten, and to souke,
 Of that he *briben* can or borwe moy, *Id.*
 You have condemned and noted Lucius Pella,
 For taking *bribes* here of the Sardians. *Shakspeare.*

There was a law made by the Romans, against the *bribery* and extortion of the governors of provinces: before, says Cicero, the governors did bribe and extort as much as was sufficient for themselves; but now they bribe and extort as much as may be enough not only for themselves, but for judges, jurors, and magistrates. *Bacon.*

Nor less may Jupiter to gold ascribe,
 When he turned himself into a *bribe*. *Waller.*
 If a man be covetous, profits or *bribes* may put him
 to the test. *L'Estrange.*
 There is joy when to wild will you laws prescribe,
 When you bid fortune carry back her *bribe*. *Dryden.*

No *bribery* of courts, or cabals of factions, or advantages of fortune, can remove him from the solid foundations of honor and fidelity. *Id.*

How powerful are chaste vows! the wind and tide
 You *bribed* to combat on the English side. *Id.*

The secret pleasure of a generous act,

Is the great mind's great *bribe*. *Id. Don Sebastian.*

Affection is still a *briber* of the judgment; and it is hard for a man to admit a reason against the thing he loves; or to confess the force of an argument against an interest. *South*

The great, 'tis true, can still the' electing tribe;
 The bard may supplicate, but cannot *bribe*.

'Prologue to Good-natured Man.

The kingdom's farm he lets to them bids least,
 (Greater the *bribe*) and cheats at interest. *Marvell,*

BRIBE anciently imported as much as panis mendicatus, which still keeps up the idea of the matter whereof bribes anciently consisted. Hence also the Spaniards use *bribar* and *brivar* for begging; and *brivia*, *brivoneria* and *brivonissimo*, for beggary. In authors of the middle age, a bribe given a judge is called *quato litis*, and the receiver, *campi particeps*, or *cambi particeps*; because the spoils of the field, i. e. the profits of the cause, were thus shared with the giver.

BRI'B'ERY, in law, is a high offence, where a person in a judicial place takes any fee, gift, reward, or brokerage, for doing his office, but of the king only. It signifies also the receiving or offering any undue reward to or by any person concerned in the administration of public justice, whether judge, officer, &c. to act contrary to his duty; and sometimes it signifies the taking or giving a reward for a public office.—In the east it is the custom never to petition any superior for justice, not excepting their kings, without a present. The Roman law, though it contained many severe injunctions against bribery, as well for selling a man's vote in the senate or other public assembly, as for the bettering of common justice; yet, by a strange indulgence, it tacitly encouraged this practice, in one case; allowing magistrates to receive small presents, provided they did not on the whole exceed 100 crowns a-year; not considering the insinuating nature and gigantic progress of this vice, when once admitted. Plato, therefore, in his ideal republic, orders those who take presents for doing their duty to be punished in the severest manner; and by the laws of Athens, he that offered a bribe was also prosecuted, as well as he that received a bribe. In England this offence is punished, in inferior officers, with fine and imprisonment; and in those that offer a bribe, though not taken, the same. But in judges, especially the superior ones, it has always been looked upon as so heinous an offence, that the chief justice Thorpe was hanged for it in the reign of Edward III. By a statute, 11 Henry IV. all judges and officers of the king, convicted of bribery, shall forfeit treble the bribe, be punished at the king's will, and be discharged from his service for ever. And some notable examples have been made in parliament, of persons in the highest stations, and otherwise very eminent and able, but contaminated with this sordid vice.

BRI'B'ERY IN ELECTIONS. See **ELECTIONS**.

BRICIANI, a military order, instituted by St. Bridget, queen of Sweden, who gave them the constitutions of those of Malta and St. Augustine. It was approved by Pope Urban V. The Briciani were to fight for the burying of the dead, to relieve and assist widows, orphans, the lame, sick, &c.

BRICK', v. & n.	} Fr. <i>brique</i> ; Armoric <i>brick</i> ; Ital. <i>bruchio</i> ; terra <i>abruclian</i> , from Goth. and Swed. <i>bræka, brasa</i> ; Ital. <i>bruggio</i> , to burn. A piece of burnt clay. 'Brick is a mass of argillaceous earth, sometimes mixed
BRICK'ED,	
BRICK'BAT,	
BRICK'CLAY,	
BRICK'DUST,	
BRICK'KILN,	
BRICK'LAYER,	
BRICK'WALL.	

with coal ashes, chalk, and other substances, formed in cubical moulds, dried in the sun, and baked into a kind of artificial stone for the use of builders.' To work, build, or fortify with bricks.

A stately pallace built of squared *bricke*
Which cunningly was without mortar laid,
Whose walls were high, but nothing strong nor thicke,
And golden-foile all over them displaid,
That purest sky with brightness they dismaid.

Spenser.

Nor *brick* nor marble was the wall in view,
But shining crystall from top to base,
Out of her womb a thousand rayons threw,
One hundred steps of Africk gods enchase.

Id.

The elder of them, being put to nurse,
And ignorant of his birth and parentage,
Became a *bricklayer* when he came to age.

Shakspeare.

If you had lived, Sir,
Time enough to have been interpreter
To Babel's *bricklayers*, sure the tower had stood.

Donne.

For whatsoever doth so alter a body, as it returneth not again to that it was, may be called *alteratio* major; as coals made of wood, or *bricks* of earth.

Bacon.

Earthen bottles, filled with hot water, do provoke in bed a sweat more daintily than hot *brickbats*.

Id.

He with a crew, whom like ambition joins
With him, or under him, to tyrannize,
Marching from Eden towards the West, shall find
The plain, wherein a black bituminous gurge
Boils out from under ground, the mouth of hell;
Of *brick*, and of that stuff they cast to build
A city, and tower, whose top may reach to heaven.

Milton.

And hence like Pharaoh that Israel pressed
To make mortar and *brick* yet allowed 'em no straw;
He cared not though Egypt's ten plagues us distressed,
So he could to build but make policy law.

Marcvell.

Thus daily his gouty inventions him pained,
And to save the expences of *brickbat*,
That engine so fatal, which Denham had brained,
And too much resembled his wife's chocolat.

Id.

They are common in claypits; but the *brickmakers*
pick them out of the clay.

Woodward.

I observed it in pits wrought for tile and *brick-clay*.

Id.

They grow very well both on the hazelly *brick-earths*, and on gravel.

Mortimer.

Like the Israelites in the *brick-kilns*, they distinguished the more for their oppression.

Decay of Piety.

The sexton comes to know where he is to be laid,
and whether his grave is to be plain or *bricked*.

Swift.

This ingenious author, being thus sharp set, got together a convenient quantity of *brickdust*, and disposed of it into several papers.

Spectator.

But spread, my sons, your glory thin or thick,
On passive paper, or on solid *brick*.

Pope.

They generally gain enough by the rubbish and *bricks*, which the present architects value much beyond those of a modern make, to defray the charges of their search.

Addison.

BRICK, a fat reddish earth, formed into long squares, four inches broad, and eight or nine long, by a wooden mould, and then baked or burnt in a kiln, to serve the purposes of building. Bricks are commonly red, though there are some of a white color.

BRICKS clearly existed in the very origin of human associations. It appears by the Sacred Writings that the tower of Babel was attempted to be raised with them. They seem to have been in common use while the Israelites were in Egypt, for their oppressive task was the making of brick without straw; and in the book of Exodus we are informed that the Israelites built two Egyptian cities. Straw was clearly then one of the ingredients of these as of modern bricks, and as rain is almost unknown in Egypt, it is probable that their bricks were merely baked in the sun, a mode of making them still practised in the East, where exist the ruins of a considerable tower near Bagdad, which some have considered as the tower in Babylon, described by Herodotus, (lib. i. c. 181.), formed wholly of this material. The Greeks chiefly used three kinds of bricks; the first whereof was called *ἐὺδωρον*, i. e. of two palms or six inches; the second *τετραδωρον*, of four palms, or twelve inches long; the third *πενταδωρον*, of five palms, or fifteen inches. They had also bricks, just half the size of these, to render their brick-work more solid, and also more agreeable to the eye. The bricks chiefly used by the Romans, according to Pliny, were a foot and a half long, and a foot broad; which measures nearly agree with those of several Roman bricks in England. That they excelled in the art of brick-making is clear, several of their structures of this material, as Trajan's pillar for instance, having come down to us unimpaired almost during the lapse of near 2000 years. Pliny mentions a kind of brick used by the ancients, so light as to swim in water. 'Pitanæ in Asia, et in ulterioris Hispaniæ civitatibus Maxilua et Calento, fiunt Lateres, qui ciccati non merguntur in aqua.' (Plinii Natur. Histor. lib. xxxv. c. 14). He does not state the part of the world in which they were manufactured, but only that the material employed was a kind of pumice stone. Until the year 1791 this was unintelligible to the modern world; then M. Fabroni found a substance at Castel del Piano, not far from Santa Fiora (between Tuscany and the Papal dominions), which formed bricks capable of being floated on water. It is a white earthy matter, which constitutes a bed in that place, and was known in Italy by the name of Latte di Luna. In recent mineralogical works it is distinguished as the *farina fossilis* (bergmehl). Haüy considers it as a variety of talc, and Brochant, as a variety of meerschau. According to the analysis of Klapproth, it contains,

Silica	79
Alumina	5
Oxide of iron	3
Water	12
Loss	1

—
100

From this analysis, we see it appears to be neither a variety of talc nor of meerschaum, but rather a hydrate of silica. Sir Henry Wotton speaks of a sort of bricks at Venice, of which stately columns were built; they were first formed in a circular mould, and cut, before they were burnt, into four or more quarters or sides; afterwards, in laying, they were joined so close, and the points concentrated so exactly, that the pillars appeared one entire piece. In modern times brick-making is nowhere carried to greater perfection than in Holland, where most of the floors of houses and often the streets are paved with excellent and very durable bricks.

Loam and marl are considered the best English materials for bricks. The former is a natural mixture of sand and clay, which may be converted at once into this useful manufacture; marl is a mixture of limestone and clay in various proportions. The best proportion for common bricks would be three parts of clay, and one part of limestone or chalk powdered. Such a mixture exposed to heat experiences an incipient fusion, and thereby is rendered much harder and denser; it imbibes much less water than any other material, and is therefore much less liable to crack and fall to pieces in winter.

We cannot here enter into details respecting the chemical investigations of different periods as to the nature of clay. Suffice it to say, that during the last century the labors of Pott, Baumé, and Margraaf, threw a sufficient light upon the subject to enable us to pronounce it a mixture of alumina and silica, in different proportions. It was shown at the same time that it also frequently contains sulphuric acid and potash. More recent researches have likewise discovered in its composition mica, chalk, felspar, hornblende, bitumen, oxide of iron, and coal, which modify its qualities considerably, and adapt it for the various purposes of different manufactories.

The neighbourhood of London is remarkably adapted for the making of bricks, the soil of the whole surrounding country being clay at a certain depth, generally under a bed of gravel; and the bottom of the Thames yielding the sand which is used in this manufacture. Here, too, of course, is an uncommon consumption of them; and although from the peculiar advantages of the spot an excellent yellow brick has long distinguished the manufacture of the metropolis, great practical carelessness seems to pervade the whole business as conducted here. We see no reason why our Dutch neighbours should so decidedly excel us in this particular; except that the spirit of a short-sighted parsimoniousness has crept into this as into many other of our calculations; that is, houses are built in and about London, not to endure nor to sell, strictly, but to let, and that for comparatively short leases. frequently. Hence our ordinary

architects and takers of building leases have no part in the ambition of rearing an 'eternal city': whole streets may be seen 'in youth decrepid,' propped, and tottering, sometimes before tenanted, and the greater number of bricks used are not above half kneaded and half burnt.

Brick-clay is generally dug out and exposed at the end of one season, for the operations of the next. It should always be laid open to the air and weather for a considerable time; and if for two or three seasons, the bricks will be the better made. The stones of which the clay has been originally formed, thus become more completely decomposed, and the clay itself better pulverised. The frosts of winter, too, temper and mellow it very beneficially. It should be often turned over, and afterwards ground by a mill to a complete powder; but ordinarily the clay is tempered by the treading of men or cattle; the earth being thrown into shallow pits, where it is wrought and incorporated, until formed into a homogeneous paste. This is facilitated by occasionally adding small quantities of water; but the less water that is used, the better for the substance of the clay, which will be more tough and gluey, and consequently the bricks will be smoother and more firm. This is the most laborious, and perhaps most essential, part of the process; to the negligence of which we are to attribute almost all the bad qualities of modern bricks; hence are they light, soapy, spongy, and full of cracks. Whereas, if the clay be properly tempered, they are hard, ponderous, and durable. M. Gallon having taken a quantity of brick-earth tempered in the usual way, let it remain exposed to the air for seven hours, and then caused it to be moistened and beaten for the space of half an hour; the next morning the operation was repeated; and in the afternoon the clay was again beaten for fifteen minutes more; making the whole additional labor an hour and a quarter. The bricks made of this earth being dried in the air for thirteen days, and burned along with the rest without any particular precautions, were found to be not only heavier than common bricks, but also very different in strength; for on placing their centre on a sharp edge, and loading both the ends. Mr. Gallon found, that while it took a weight of 65 lb. at each end to break them; other bricks were broken by the weight of only 35 lbs. The improvement in the quality of the article thus far exceeding the additional labor.

A proper quantity of coarse sand is a fine annealer of brick-clay; it answers best when the particles are of such a size as to be readily distinguished by the eye. When as large as coriander seeds, it has been found to answer better than when very fine.

London brick-makers add also about one-third part of ashes or small coal to their clay, the consequence of which is said to be that when the mixture is sufficiently heated afterwards, those fires burn of themselves, and are chiefly fed with the fuel supplied by the clay. Bricks, according to Mr. Malcolm, are made by the thousand, as the most satisfactory mode between master and man, and a handy man could mould in one day, viz. from five in the morning until eight at night,

5000. To assist him in the preparation of the soil, &c. from the heap (which is usually dug after the season for brick-making is over, and laid up), there is generally a gang, consisting of six persons; one man tempers and prepares the soil, which is done with a hoe made long, in the shape of a mattock, a shovel, scoop, a thick plank or board, and a cuckhold; with the hoe he pulls down the soil from the great heap, which is chopped backwards with the shovel, to turn it as often as may be necessary, to mix and thoroughly incorporate the ashes and soil together, because it is to be understood, that at the time the soil is dug out, and made into this heap, a layer of coal ashes is alternately placed between a layer of soil, as often and in such quantities in each layer as the quality of the soil and other circumstances may make necessary. The scoop is used to throw water over this portion that is pulled down with the hoe, in order that it may become, more and more, in a tempering state, more soft and ductile; and with the board he kneads it together, over which a certain quantity of sand is thrown, and it is then covered with pieces of sacking or matting, to keep the sun and air from it. A boy scoops or cuts off a slice, with an instrument or shovel having a short handle, and the blade of it made concave, called a cuckhold; this he brings on his arms to the moulding table, which is placed under a moveable shed, upon which, another boy rolls out a lump somewhat bigger than will fit the mould, the table have been previously strewn with sand. The moulder, after dipping his mould into dry sand, placed at one corner of his table, throws the lump prepared into the mould, and with a flat smooth stick, about eight inches long, previously dipped in a pan of water, strikes off the surplus soil; he then immediately turns out the brick upon a stand, or board, of the same size with the brick; a boy takes it from thence, and places it on a light barrow, with a lattice-work frame fixed over the frame of the barrow, at about three feet high above the wheel, and reduced to about eighteen inches in height towards the handle, forming an inclined plane. The new made bricks are placed on this lattice frame, and over them sand is thrown in sufficient quantities to prevent their adhering to each other, as well as to prevent, in a certain degree, their cracking in drying while on the hacks. A boy wheels the barrow to the hacks, and places them with great regularity and despatch, one above the other, a little diagonally, in order to give a free passage to the air. Each hack is made wide enough for two bricks, to be placed edgeways across, with a passage between the heads of each brick; they are usually made eight bricks high; the bottom bricks at the end of each hack are old ones.

Wheat or rye straw is, in showery weather, carefully laid over the hacks, at least near London, where the brick-makers do not, as in some places distant from the metropolis, go to the expense of roofed coverings, or sheds; their works being too extensive. If the weather is tolerably fine, a few days is sufficient to make them dry enough to be turned, which is done by resetting them more open, and turning them; and six or

eight days more are required before they are fit to be put into the clamp or kiln for burning. Bricks throughout the country are generally burnt in a kiln thirteen feet long, by about ten feet and a half wide, and twelve feet in height. It will hold about 20,000 bricks. The walls are one foot two inches thick, carried up a little out of the perpendicular, inclining towards each other at the top. The bricks are placed on flat arches, having holes left in them resembling lattice work; the kiln is then covered with pieces of tiles or bricks, and some wood put in, to dry them with a gentle fire. This continues two or three days before they are ready for burning, which is known by the smoke turning from a darkish color to transparent. The mouth or mouths of the kiln are now dammed up with a shinlog, or pieces of brick piled one upon another, and closed with wet brick earth, leaving above it just room sufficient to receive a faggot. The faggots are made of furze, heath, brake, fern, &c. and the kiln is supplied with these until its arches look white, and the fire appears at the top; upon which it is slackened for about an hour, and the kiln allowed gradually to cool. This heating and cooling is repeated until the bricks are thoroughly burnt, which is generally in forty-eight hours. Near London, when the bricks are sufficiently dried by the air, the clampmaker levels the ground, at one end of the range of hacks, making the foundation of the intended clamp somewhat higher than the surrounding ground; and with place bricks, if they have any, or otherwise with the driest of those just made, makes a foundation of an oblong form, beginning with the flue, which is nearly a brick wide, and running straight through the clamp. In this flue, dry bawns, coals, and cinders, vulgarly called breese, are laid and pressed in close, in order that the interstices between wood and coal may be properly filled up. On the sides of the flue, the bricks are placed diagonally about one inch asunder, and between each layer of bricks three or four inches of breese are strewn, and in this manner they build tier upon tier as high as the clamp is meant to be; never omitting between each layer, as well as between each brick that is placed diagonally, to put a due portion of breese. When they have made the clamp about six feet long, another flue is made similar in every respect to the preceding, to the extent of the size of the intended clamp, provided only that the bricks are meant to be burnt off quick, which they will be in about twenty-one or thirty days, according as the weather may suit. But if there is no immediate hurry for the bricks, the flues are placed about nine feet asunder, and the clamp left to burn off slowly. When the fire is set to the clamp, and it burns well, the ash-hole, being placed at the west end generally, the mouths are stopped with bricks, and clay laid against them; the outsides of the clamps are plastered with clay if the weather is at all precarious, or the fire burns furiously; and to the end against which addition is made to the clamp, screens made of reeds worked into frames about six feet high, and sufficiently wide to be moved about with ease, are placed to keep off the weather, and against any particular side where wet is

most prevalent. On the top of the clamp a thick layer of breese is uniformly laid.

The excellency of bricks, says Mr. Malcolm, consists chiefly in the first and last operation; for bricks made of good earth, and well tempered, become solid and ponderous, and therefore will take up a longer time in drying and burning than our common bricks seem to require. It is also to be observed, that well drying of bricks, before they are burned, prevents cracking and crumbling in their burning; for when the bricks are too wet, the parts are prevented from adhering together. The best way of ordering the fire is, to make a gentle fire at first, and increase it by degrees, as the bricks grow harder. It has been said to give bricks additional strength if after burning they are steeped in water and burnt afresh.

The common computation is, that every acre of land will yield one million of bricks, in every foot in depth, including ashes, which are usually mixed with it. In general our fields are shallow, with a bottom of gravel, yet we think they will average nearly five feet, though we believe we have none that will run twelve or more feet, as about Kingsland; at least such is Mr. Malcolm's information on this subject. Among modern improvements, the patent bricks of Mr. Cartwright deserve some attention. These are formed with a groove down the middle, a little more than half the width of the side of the brick, leaving two shoulders, each of which will be nearly equal to one-half the groove. When they are laid in courses, the shoulders of the first course fit into the grooves of the second, and the shoulders of the second fall into the grooves of the first, thus forming an indented line of nearly equal divisions. The grooves, however, ought to be somewhat wider than the two adjoining shoulders, to allow for mortar, &c. The construction of these bricks is perfectly simple; but the principle will be preserved, in whatever form of indenture they may be made to lock into, or cramp each other. Brick walls, constructed upon this principle, require no bond timber, one universal bond connecting the whole building, which can neither crack nor bulge out without breaking through the bricks themselves. This invention is also particularly useful in the construction of arches; and when employed for this purpose, the shoulders of the bricks and the sides of the grooves should be radii of the circle, of which the intended arch is a segment. It is, however, recommended that if the arch be particularly flat, or applied in situations which do not admit of end walls, to have the shoulders dovetailed, to prevent the arch cracking across, or giving way edgeways. In forming an arch, the bricks must be coursed across the centre, and the grooved side of the bricks must face the workmen. The bricks may be either laid in mortar, or dry and the interstices filled up by pouring in lime putty, Paris plaster, or any other convenient material. The obvious advantages of arches constructed upon this principle, are, that the same centre, which, whatever be the breadth of the arch, may be in no case many feet wide, may be regularly shifted as the work proceeds; and, as they have no lateral pressure, they require no abutments to prevent their expanding at the

foot, nor any weight upon the crown to prevent their springing up. They may be laid upon a common perpendicular wall, and if used in the construction of common buildings, they will not only preclude the necessity, and save the expense of timber, but will also afford an absolute security against the possibility of fire.

A M. Legressier has also lately announced an invention of the kind in the Archives des Decouvertes et des Inventions Nouvelles, pendant l'annee 1809. The principle is Mr. Cartwright's followed out to a greater extent. M. Legressier merely proposes, that the bricks should be formed in seven different moulds, according as they are to be placed in the middle or outside of the walls; in the bottom or on the top; in the arches or in corners; and, by the proper disposition of these bricks in the building, every pressure, either longitudinally or laterally, is resisted, in proportion to the strength of the indentures by which they are locked.

Fire-bricks are of different materials to common bricks; but made in the same way. The best clay for them is Stourbridge clay; and, instead of sand, it is usual to mix the clay with a quantity of old fire-bricks, crucibles, or glass pots, reduced to powder. The kinds of bricks made in this country, are principally place-bricks, gray, and red stocks, marle facing bricks, and cutting bricks. The place bricks and stocks are used in common walling. The marles are made in the neighbourhood of London, and used in the outside of buildings; they are of a beautiful yellow color, hard, and well burnt, and in every respect superior to the stocks. The finest kind of marle and red bricks, are called cutting bricks, and are used in the arches over windows and doors, being rubbed to a centre, and gauged to a height. There is also a fine kind of white bricks made near Ipswich, which are used for facing, and sometimes brought to London for that purpose. In Sweden it is said to be customary, at some of the iron foundries, to cast the scoræ into bricks, which they employ in constructing their furnaces. Any quantity of such bricks could then be produced by some of our large iron foundries; and it is surprising that a recommendation upon this subject, long since given, has never been acted upon by them.

As articles of taxation, and furnishing a considerable revenue to Government, the size of bricks has been regulated by act of parliament. They must not be less than eight inches and a half long, two and a half thick, and four inches wide. But for specific purposes, they are allowed to be made of different sizes.

BRICKLAYING is the art of cementing bricks, by lime, or some other cement, so as to form one body. In London, bricklaying includes the business of walling, tiling, and paving with bricks or tiles; and it is sometimes united with plastering. In the country it is very common for the same person to exercise masonry, bricklaying, and plastering. This is of great antiquity.

Tools used by bricklayers, are, 1. The *trowel*, for taking up and spreading the mortar, in order to cement the bricks together, and for cutting them to any shape required. 2. The *hammer*, which is used to cut holes in brick walls. 3. The *plumb rule*, generally about four feet

long, and used with a plumb line, to carry the faces of walls perpendicularly. 4. The *level* from six to twelve feet long, used to try the level of works as it proceeds, more particularly window cills and wall plates. 5. The *large square*, for trying and setting out the sides of buildings at right angles. 6. The *rod*, for measuring, either five or ten feet long, and divided by notches on the edge, into as many feet, the last foot of which is divided into inches. 7. The *jointing rule*, eight or ten feet long, for running the joints of brick-work. 8. The *jointer* is made of steel, and shaped like the letter S; with this and the rule, the joints in brick-work are marked. 9. The *compasses*. They are used for traversing arches, &c. 10. The *raker*, a piece of iron, bent like the letter Z, and pointed at both ends; its use is to pick or scrape decayed mortar out of joints in old walls to be replaced by new. 11. The *hod*, which consists of two boards put together at right angles, with a handle or leg, somewhat resembling the letter Y, fastened to that part where the two sides meet; one end of the trough is open and the other closed; its use is to carry mortar, bricks, stones, &c. up the ladders, on the shoulder, the handle serving to keep it steady while ascending, and to rest it upon when on the scaffolding. Some sand or dust is generally strewed over the inner surface when mortar is carried, to prevent its sticking. 12. The *line-pins*. They are two iron pins for fastening and stretching the line, for the purpose of laying the courses level. 13. The *rammer*. When ground is of a loose kind this tool is used for compressing it, by beating on its surface. 14. The *iron crow and pick-axe* are used for the purpose of breaking through walls; the crow-bar is used alone for raising large stones, or any other heavy bodies. 15. The *grinding-stone*, which is used for sharpening any of the tools. 16. The *banker*, a high bench of six to twelve feet long, two or three feet wide, and two feet eight inches high from the ground, and serves as a bench to rub bricks for arches or other work upon. 17. The *camber-slip* is a piece of wood of at least half an inch thick, with one of its edges curved, and rising about one inch in six feet; its use is for drawing the soffit lines of straight arches. If the other edge is curved, it should rise one half as much; this is used for drawing the upper side of straight arches, to allow for their settling. Some workmen prefer the upper side of the arch straight. When the lines are drawn the camber slip should be given to the carpenter to enable him to form the centre to the curve of the soffit. 18. The *rubbing-stone*, generally of a cylindric form, about twenty inches in diameter, fixed at one end of the banker. When the bricks are brought as near the shape as convenient, by the axe, they are by this rubbed smooth; it is also used for rubbing headers and stretchers, called rubbed returns. 19. The *bedding-stone*, formed of a piece of marble, about eighteen inches long, and eight or ten inches wide, with one fair side; its use being to try the rubbed sides of the brick, which must be first squared, in order to try whether the surface of the brick is straight, so as to fit upon the leading skew-back, or leading end of the arch. 20. The *small square*, for trying the bedding of the bricks, and squaring

the soffits across the breadth of the bricks. 21. The *bevel*, for drawing the soffit line on the face of bricks. 22. The *mould*, used in giving form to the back and face of the brick, that it may have its thickness reduced to its proper taper, to which end one edge of the mould (which has a notch for every course of the arch), is brought close to the bed of the brick already squared. 23. The *scribe*, any piece of iron ground to a point, to mark by the edge of the rule or mould. 24. The *tin-saw*, for cutting the lines upon the bricks about one-eighth of an inch deep, that when the axe is used the edges may not spalter away. It is also used in cutting the soffit through its breadth, in the direction of the tapering lines, drawn on the face and back of the brick; the cut being made deeper on the face and back than in the middle of its thickness, for the purpose of entering the axe. The saw is likewise useful in cutting false joints. 25. The *brick axe* is used for axing off the soffits of bricks to the scribes, and saw cuttings. The more care that is taken in axing, the less will be the labor of rubbing. 26. The *tamplet* is used in taking the length of the stretches and width of the header.—The last ten articles relate to the cutting of gauged arches.

The *chopping block* is any convenient piece of wood, placed so as to be three inches from the ground, supported either on legs or piers, and used for axing bricks upon. Its length must be according to the number of men that are to work at it.

The *float stone* is used to rub the curved surface of the bricks smooth; it is necessary to bring it as near as possible to the figure of the surface intended to be rubbed, before the operation is begun.

In laying bricks in the summer season, dip them into water, until they become saturated; and when the work is left for only one day, the walls should be as carefully covered as in the winter; for at such time the mortar sets too rapidly, and the necessary cohesion is destroyed. This evil is increased by the dust which hangs about bricks, more especially at this time of the year; and this last circumstance should operate as an additional motive for adopting the above expedient. While the injuries to which brick-work is liable, from frost, &c. is known to all, it is singular, that a point of equal, if not of superior importance, should be almost overlooked, or at least generally deemed too inconsiderable to merit attention.

In working up a wall, it will be proper not to work more than four or five feet at a time, for as all walls, immediately after building, shrink, the part which is first brought up will remain stationary, and when the adjoining part is raised to the same height, a shrinking or settling will take place, and separate the former from the latter, causing a crack, which will become more and more evident as the work proceeds. In carrying up any particular part, each side should be sloped off, to receive the bond of the adjoining work on the right and left. Nothing but absolute necessity can justify the work being carried higher, in any particular part, than one scaffold, for, wherever it is done, the workman is certainly answerable for all the evil which may arise from such palpable error.

There are two kinds of bond in brick-work, which differ materially from each other, and as the subject is of the highest importance to the bricklayer, we shall lay before our readers some remarks contained in a pamphlet, written on this subject, by Mr. G. Saunders, who has treated it with a degree of attention which its importance requires.—‘Bricks laid lengthways in the direction of the wall are called stretchers, and those laid in an opposite way crossing the direction of the wall, are called headers. Old English bond is a continuation of one kind throughout, in the same course or horizontal layer, and consists of alternate layers of headers and stretchers, the headers serving to bind the wall together, in a longitudinal direction, or lengthways; the stretchers to prevent the wall splitting crossways, or in a transverse direction. Of these two evils, the former is by much the worst kind, and is therefore much dreaded by the bricklayer.’

Mr. Saunders is of opinion, that old English brick-work is the best security against these accidents, as work of this kind, wheresoever it is so much undermined as to cause a fracture, is not subject to either of the above evils, but separates by breaking through the solid brick, just as if the wall were composed of one entire piece. The brick-work of the Romans was of this kind of bond, but the specimens of their work, which remain, are of great thickness, and have three or sometimes more courses of brick laid at certain intervals of the height, stretchers on stretchers, and headers on headers, opposite the return wall, and sometimes at certain distances in the length, forming piers, that bind the wall together in a transverse direction. The intervals between these piers were filled up, and formed pannels of rubble or reticulated work; consequently great substance with strength was economically obtained.

Flemish bond, which is the second kind, consists in placing in the same course alternate headers and stretchers, which disposition, according to our author, is decidedly inferior in every thing but in appearance, and even in this, the difference is so trifling, that few common observers would be struck with any great superiority, that the former possesses over the latter. To obtain this, strength is sacrificed, and bricks of two qualities are fabricated for the purpose; a firm brick often rubbed, and laid in what the workmen term a putty joint, for the exterior, and an inferior brick for the interior substance of the wall. As these did not correspond in thickness, the exterior and interior surface of the wall, would not be otherwise connected together, than by an outside heading brick that was here and there continued of its whole length. But as the work does not admit of this at all times, from the want of agreement in the exterior and interior courses these headers can only be introduced where such a correspondence takes place, which sometimes may not occur for a considerable space. Walls of this kind consist of two faces of four inch work, with very little to connect them together, and, what is still worse, the interior face often consists of brick, little better than rubbish. Notwithstanding this, the practice of Flemish bond has continued from the time of William and Mary, when it was introduced with many other

Dutch fashions; and our workmen are so infatuated with this practice, that there is scarcely an instance to be seen of the old English bond.

To the Flemish bond alone must be attributed the frequent splitting of walls into two thicknesses, and various schemes have been from time to time adopted for the prevention of this formidable defect. Some have laid laths or slips of hoop iron, occasionally, in the horizontal joints between the two courses; others lay diagonal courses of bricks at certain heights from each other; but the good effect of this last practice is much doubted, as in the diagonal course, by their not being continued to the outside, the bricks are much mangled where the strength is wanted. Many other practices are enumerated, to unite complete bond with Flemish facings, but with no better success.

For the walls of cottages and small buildings, the system of working walls hollow is attended with many advantages. Cottages in exposed situations in the country, which are built with a nine inch wall, solid, from the porous nature of the bricks, are damp and uncomfortable; the rain passing from the external to the internal part of the wall. The plan of building walls hollow, as shown in fig. 1, consists in placing a course of alternate headers and stretchers on cage A, and the backing course is like it, leaving an interval between of the width of a half brick; these are then covered with a heading course, B, laid flat, and the system is pursued until the whole height required be attained.

Fig. 1.

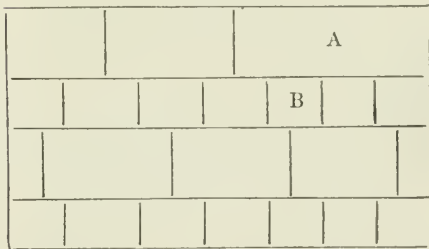


Fig. 2 is a section of the wall, showing the intervals in the same, and describing the construction of it. It will be seen by inspection that these walls possess the desirable qualities of cheapness and durability, as, from the continued dryness of them, the timbers of roofs, &c. which are laid in them, are not so liable to decay; and the saving of bricks will be 1500 in a rod of reduced work; and the quantity of mortar less by a third than in the usual way.

Fig. 2.



This system may be well applied to garden walls (with piers about ten feet apart), as the walls retain the heat in summer; and, from their being hollow, admit the air, so that they are always dry.

In the old English bond, the outside of the

last course, points out how the next is to be laid, so that the workman cannot easily err. The outside appearance is all that can be urged in favor of Flemish bond, but even in this, Mr. Saunders is of opinion that were the English manner executed with the same attention and neatness that is bestowed on the Flemish, it would be considered as equally handsome. However this may be, it is surely the duty of all who are concerned in this business, to recommend the adoption of the old English bond in preference. For the construction of chimneys, foundations, roofs, windows, &c. see ARCHITECTURE: and for the building of ovens, see OVEN.

BRICKING, among builders, the counterfeiting of a brick wall on plaster. It is done by smearing it over with red ochre, and making the joints with an edged tool; these last are afterwards filled with a fine plaster.

BRICKLAYERS in London are a regular company, which was incorporated in 1568; and consists of a master, two wardens, twenty assistants, and seventy-eight on the livery.

BRICKLAYERS, MATERIALS and TOOLS USED BY. These are bricks, tiles, mortar, nails, and tile-pins. Their tools are a brick-trowel, wherewith to take up mortar; a brick-axe, to cut bricks to the determined shape; a saw, for sawing bricks; a rub-stone, on which to rub them; a square, wherewith to lay the bed or bottom, and face or surface of the brick, to see whether they are at right angles; a level, by which to cut the under sides of bricks to the angles required; a small trammel of iron, wherewith to mark the bricks; a float-stone, with which to rub a moulding of brick to the pattern described; a banker, to cut the bricks on; line-pins to lay their rows or courses by; plumb-rule, whereby to carry their work upright; level, to conduct it horizontal; square, to set off right angles; ten foot rod, wherewith to take dimensions; jointer, wherewith to run the long joints; rammer, wherewith to beat the foundation; crow and pick-axe, wherewith to dig through walls.

BRICK-LAYING, the art of framing edifices of bricks. This business in London, includes tiling, walling, chimney-work, and paving with bricks and tiles. In the country it also includes the mason's and plasterer's business. Moxon has a treatise on the art of brick-laying; in which he describes the materials, tools, and method of working, used by bricklayers. Great care is to be taken, that bricks be laid joint on joint in the middle of the walls as seldom as may be; and that there be good bond made there, as well as on the outsides. Some bricklayers, in working a brick and half wall, lay the header on one side of the wall perpendicular to the header on the other side, and so all along the whole course; whereas, if the header on one side of the wall were toothed as much as the stretcher on the other side, it would be a stronger toothing, and the joints of the headers of one side would be in the middle of the headers of the course they lie upon of the other side. If bricks be laid in winter, let them be kept as dry as possible, if in summer, it will quit cost to employ boys to wet them, for that they will then unite with the mortar better than if dry, and

will make the work stronger. In large buildings, or where it is thought too much trouble to dip all the bricks separately, water may be thrown on each course after they are laid, as was done at the building of the Physician's College, by order of Dr. Hooke. If bricks are laid in summer, they are to be covered; for if the mortar dries too hastily, it will not bind so firmly to the bricks as when left to dry more gradually. If the bricks be laid in winter, they should also be covered well, to protect them from rain, snow and frost; which last is a mortal enemy to mortar, especially to all such as have been wetted just before the frost assaults it.

BRICK-MAKING is mostly performed at some small distance from cities and towns; and though some, through ignorance, look upon it as a very mean employment, because laborious, yet the masters about London, and other capital cities, are generally men of substance. See BRICKS.

BRIDE, <i>v. & n.</i>	Goth. <i>brud</i> ; Swed. and
BRIDAL, <i>n. & adj.</i>	Dan. <i>brud</i> ; Belgic, <i>bruid</i> ;
BRIDALTY,	Teut. <i>braut</i> ; Ang.-Sax.
BRIDE-BED,	bryd; Armoric, <i>bried</i> ;
BRIDE-CAKE,	Welsh, <i>priod</i> ; from Goth.
BRIDE-CHAMBER,	<i>reda, bereda</i> ; Sax. <i>bered-</i>
BRIDEMAI, or	dian; Teut. <i>braten</i> , to
BRIDEGROOM,	betrothe; to solemnise
BRIDEMAN,	legally. Goth. <i>rad</i> ; Teut.
BRIDESTAKE.	<i>heyraht</i> , signified mar-

riage ceremony; and Sax. bryd was applied to any married woman. Tooke, however, is confident that bride is the past participle of the Ang.-Sax. *bredan*, to nourish, to cherish; and that groom is the past participle of the Ang.-Sax. verb *gyman*, to take care of; to girdle; to guard; to attend. So that, according to him, the bride is any woman nourished, cherished; and the bridegroom is the person by whom the nourished, cherished one is attended, served, protected. Bruder, in Runick, signifies a beautiful woman; and all women at the time of their marriage are deemed by their lovers the fairest of their sex. The eye of love fixes on its bruder, its beauty. To be sure this sometimes goes off: but bride and loveliness are synonymous, perhaps for a moon.

At every *bridale*, would he sing and hoppe;
He loved bet the taverne than the shoppe.
For whan there any riding was in Chepe,
Out of the shoppe, theder wold he lepe,
And til that he had all the sight ysein,
And danced wel, he wold not come again.

Chaucer's Canterbury Tales.

Help me mine own love's praises to resound,
Ne let the fame of any be envied;
So Orpheus did for his own *bride*. *Spenser.*

And let them make great store of *bridale* posies,
And let them eke bring store of other flowers,
To deck the *bridale* bowers. *Id. Epithalamium.*

And ye three handmayds of the Cyprian queene,
The which doe still adorn her beauteie's pride,
Helpe to adorn my beautifullest *bride*. *Id.*

Our wedding cheer to a sad funeral feast,
Our solemn hymns to sullen dirges change,
Our *bridal* flowers serve for a buried corse.

Shakspeare.

Come, I will bring thee to thy *bridal* chamber. *Id.*

Now until the break of day,
Through this house each fairy stray ;
To the best *bridebed* will we,
Which by us shall blessed be.

Id.

As are those dulcet sounds in break of day,
That creep into the dreaming *bridegroom's* car,
And summon him to marriage.

Id.

Nay, we must think men are not gods :
Nor of them look for such observance always,
As fits the *bridal*.

Id. Othello.

Round about the *bridestake*. Ben Jonson.

With the phantasies of hey-troll,
Troll about the *bridal bowl*,
And divide the broad *bridecake*
Round about the *bridestake*.

Id.

Sweet day, so cool, so calm, so bright,
The *bridal* of the earth and sky,
Sweet dews shall weep thy fall to-night ;
For thou must die.

Herbert.

The amorous bird of night
Sung spousal, and bid haste the evening star,
On his hill-top to light the *bridal lamp*. Milton.
Your ill-meaning politician lords,
Under pretence of *bridal* friends and guests,
Appointed to await me thirty spies. Id.
When to my arms thou brought'st thy virgin love,
Fair angels sung our *bridal* hymn above. Dryden.

Why, happy *bridegroom*!

Why dost thou steal so soon away to bed? Id.
In death's dark bowers our *brideals* we will keep,
And his cold hand

Shall draw the curtain when we go to sleep. Id.
The day approached, when fortune should decide
The' important enterprize, and give the *bride*. Id.

The lovely Thais by his side,
Sat like a blooming eastern *bride*,
In flower of youth and beauty's pride. Id.

These are tributes due from pious *brides*,
From a chaste matron and a virtuous wife. Smith.

The writer, resolved to try his fortune, fasted all day, and, that he might be sure of dreaming upon something at night, procured an handsome slice of *bridecake*, which he placed very conveniently under his pillow. Spectator.

Would David's son, religious, just, and brave,
To the first *bridebed* of the world receive
A foreigner, a heathen, and a slave? Prior.

And now the palace-gates are opened wide
The guests appear in order side by side,
And, placed in state, the *bridegroom* and the *bride*. Pope.

Full many an age old Hymen had not spied
So kind a *bridegroom*, and so bright a *bride*. Id.

For her the spouse prepares the *bridal* ring,
For her white virgins hymenæals sing. Id.

With all the pomp of woe, and sorrow's pride!
Oh early lost! oh fitter to be led
In cheerful splendour to the *bridal* bed! Walsh.

Daughters of Salem, see the Hebrew king
Crowned with the beauteous wreath his mother placed
About his temples on that happy day,
When *bridal* rites completed all his bliss. Rowe.

BRIDE. See MARRIAGE.

BRIDEGROOMS. See MARRIAGE.

BRIDWELL, *n. s.* The palace built by St. Bride's, or Bridget's well, was turned into a workhouse. A house of correction.

He would contribute more to reformation than all the workhouses and *bridewells* in Europe. Spectator.

BRIDWELL, near Fleet-street, is a foundation of a mixed and singular nature, partaking of the

hospital, the prison, and workhouse; it was founded in 1553 by Edward VI. who gave the place where king John formerly kept his court, and which had been repaired by Henry VIII. to the city of London, with 700 merks of land, bedding, and other furniture. Several youths are sent to the hospital as apprentices to manufacturers, who reside there. Having faithfully served for seven years, they have their freedom, and a donation of £10 each, for carrying on their respective trades.

BRIDWELL, is also a workhouse for vagrants, strumpets, and other disorderly persons: who are made to work; being maintained with clothing and diet; and when it seems good to their governors, they are sent by passes into their native countries. While they remain in Bridewell they are not only made to work, but, according to their crimes, receive once a fortnight, such a number of stripes as the governor commands.

BRIDGE', *v. & n.* Goth. *bro, brigg*; Swed. *BRIDG'ING.* *bryggia*; Teut. *brücke*; Sax. *brig*; Dan. *bre*; Russ. *brod, borod*; Pers. *barah*; from the verb to bear. A platform or arch over water; strewed, stretched, or sprung. A ridge; what is raised for ornament, protection, or support; the bridge of the nose; the bridge that secures a safe passage; the bridge of a violin.

At Trompington, not far fro Cantebrigge,
Ther goth a brook, and over that a *brigge*.

Upon the whiche brook ther stont a mille.
And this is veray sothe I you telle.

Chaucer's Canterbury Tales.

It was a *bridge* ybuilt in goodly wize
With curious corbes and pendants graven faire,
And, arched all with porches, did arise,
On stately pillows framed after the Doricque guise.

Spenser.

What need the *bridge* much broader than the flood?
Shakspeare.

The raising gently the *bridge* of the nose, doth prevent the deformity of a saddle nose. Bacon.

Came to the sea; and over Hellespont
Bridging his way, Europe with Asia joined.

Milton.

And proud Araxes, whom no *bridge* could bind.
Dryden.

At length on a single *bridge*, constructed with art and difficulty, of large hogsheds, he [Maximin] transported his army to the opposite bank, rooted up the beautiful vineyards in the neighbourhood of Aquileia, demolished the suburbs, and employed the timber of the buildings in the engines and towers, with which on every side he attacked the city. Gibbon.

I stood in Venice, on the *Bridge* of Sighs;

A palace and a prison on each hand:

I saw from out the wave her structures rise,

As from the stroke of the enchanter's wand.

Byron's Childe Harold.

BRIDGE, in architecture, is a work either of stone, timber, or iron, consisting of one or more arches built over a river, canal, or the like. See ARCHITECTURE, part vi. where the theory of their construction, and some account of remarkable bridges is given. Under the article LONDON BRIDGE, we notice the design and progress of that stupendous undertaking: and under IRON BRIDGES (exclusively a British invention) the history of those structures.

BRIDGE, in gunnery, the two pieces of timber which go between the two transoms of a gun-carriage, on which the bed rests.

BRIDGEND, a town of South Wales, in Glamorganshire, seated on the Ogmore, which divides it into two parts, connected by a stone bridge. It is seven miles west by north of Cowbridge, twenty from Cardiff, and 181 west from London. It has a considerable market on Saturday for cattle and provisions: with two fairs on 17th November and Holy Thursday.

BRIDGENORTH, a borough and market town of Shropshire, seated on the Severn, which divides it into two parts, united by a handsome stone bridge of six arches, and called the Upper and Lower town. It is said to have been built by Ethelfleda, widow of Ethelred king of the Mercians, about A.D. 675. Robert de Belesme, son of Robert de Montgomery, built the castle, and maintained it against king Henry I., in consequence of which it was forfeited to the crown, and remained so till the reign of Richard III., who gave it to John Sutton lord Dudley. This town has undergone several sieges; and in the civil war suffered much, the whole town being almost destroyed by fire, when Sir Lewis Kirke defended the citadel for the king. There are now no other remains of the castle than a small part of the towers, and a place of that name within its walls, within which also stands one of the churches, dedicated to St. Mary Magdalen, exempted from episcopal jurisdiction. The other church is at the north end of the town, on the highest part of the hill. Near this church-yard stood a college, which was burnt during the civil wars, together with the church, which has been since rebuilt. On the west bank of the river are the remains of a magnificent convent, under which are several remarkable vaults and caverns. Part of the Cow-gate-street is a rock, rising perpendicularly, in which are several houses and tenements that make a very grotesque appearance. In many other places there are also caves and dwellings for families in the rocks; and, indeed, the whole town has a singular appearance. It is well supplied with water, not only by pipes from a plentiful spring, half a mile off, but also from the Severn; it being thrown by a water engine to the top of Castle-hill, whence the houses are supplied. There is a curious walk made from the higher part of the town to the bridge, being a hollow way, hewn twenty feet through the depth of the rock. The town is governed by two bailiffs, elected out of twenty-four aldermen (who must have gone through all the offices of the town), a jury of fourteen, together with forty-eight common-council men, a recorder, town-clerk, &c. The corporation has many ancient privileges, as granted by various charters. It has sent two members to parliament ab origine. The right of election is in the burgesses and freemen, the number of voters being about 700. Here are manufactories of stockings, cloths, fire-arms, iron tools, &c. It has a free-school for the sons of the burgesses, and an hospital for ten poor widows. Its market, on Saturday, is well stocked with all kinds of provisions. Its fairs, on Thursday before Shrove-Sunday, June 30th, August 2nd, and October 29th, for cattle, sheep, butter, cheese,

bacon, &c., are resorted to from most parts of the kingdom; the last of these fairs continues three days. Both the churches are curacies. It is twenty miles west by north of Birmingham, and 139 north-west of London.

BRIDGET, or BRIGIT (St.), a Swedish lady of the fourteenth century, famous for her revelations, and for being the founder of the order of the Brigittines. Some represent her as a queen; but Fabricius, on better grounds, says she was only a princess, and the daughter of king Birgenes, of Upland.

BRIDGETINES. See BRIGITTINES.

BRIDGETOWN, the capital of Barbadoes, situated in the inmost part of Carlisle Bay, which is capable of containing 500 ships, being four miles in length and three in breadth. This was originally a most unwholesome situation, and was chosen entirely for its convenience for trade; but is now deemed as healthy as any place in the island. Bridgetown is esteemed one of the finest cities in the West India islands, as it contains 1200 houses, built mostly of brick. The wharfs and quays are well defended from the sea, and very convenient. The harbour is secured from the north-east wind, which is the constant trade wind there; and is well defended by numerous forts and castles from all attacks at sea. The citadel, which bears the name of St. Anne, cost about 180,000 dollars; on the east side is a small fort mounted with eight pieces of cannon, where are preserved, under the care of a strong guard, the public magazines of ammunition and provision. There are some good inns and houses of refreshment in this city. Its shops and magazines are well stored with all kinds of European productions. The city has a garrison of 1200 men, and is the seat of the governor, the council, the assembly, and the court of chancery. Here is also a post-office, where the foreign mails are made up monthly. The church of St. Michael exceeds many English cathedrals in beauty, largeness, and convenience; and has a fine organ, bells, and clock. Here is a free-school for the instruction of poor boys, an hospital, and a college. The latter was erected by the Society for propagating the Christian Religion, in pursuance of the will of Colonel Christopher Codrington, who left about £2000 a-year for its endowment, for maintaining professors and scholars to study and practise divinity, surgery, and physic. Long. 58° 38' W., lat. 13° 10' N.

BRIDGETOWN, the capital of Cumberland county, in New-Jersey. It is situated on Cohanzey creek, fifty miles south-east of Philadelphia. The county court is held here quarterly.

BRIDGEWATER, a borough of Somersetshire, ten miles north-east from Taunton, and 139 west from London. It stands on the river Parrat, over which is an iron bridge, connecting the town with the suburb of Eastover. Here the tide rises, at high water, six fathoms; and sometimes the boar, as it is called, flows in with such impetuosity that it rises nearly two fathoms at a time, which often occasions damage to the shipping. This river is navigable to Bridgewater for vessels of 200 tons, and for barges up to Taunton and Langport. The church, which is a handsome and spacious structure, has the loftiest spire in the

county Near it is a free-school of stone; and the town-hall is a large building, over which is a cistern, which, by means of machinery, supplies the inhabitants with water. Bridgewater was first incorporated by king John, who built a castle here, and was one of the first towns seized by the barons under Henry III. It was constituted a distinct county, and had other privileges granted it by Henry VIII., in consequence of which the sheriff of Somerset cannot issue any process here. During the civil war it was first garrisoned by the parliament, but soon taken by the royalists, who kept it till the extinction of their cause. The duke of Monmouth was proclaimed king here, and lodged some time in the castle. The corporation, consists of a mayor, recorder, two aldermen, twenty-four common-council men, a town-clerk, water-bailiff, and two sergeants at mace; and sends two members to parliament, who are chosen by such of the inhabitants as reside in that part called the borough, and pay scot and lot. The revenue of the corporation is estimated at about £5000 per annum. The free-men are free of all the ports of England and Ireland, except those of their respective capitals. The inhabitants carry on an extensive trade to Wales, Ireland, Newfoundland and other parts of America, the West-Indies, and the Mediterranean. Here are held four sessions annually, for trying all crimes not capital; and a court of record every Monday, which takes cognizance of debts; the rules and practice being according to those of the court of common-pleas. The streets are irregular, but wide and well paved. Markets on Thursday and Saturday. Its fairs are 24th July, 2nd October, 27th December, and the first Monday in Lent, when great numbers of horses and horned cattle are sold. The assizes of the county are held here every other year. Bridgewater has a very good coasting trade, and a considerable number of coal vessels.

BRIDLE, *v. & n.* } Goth. *bridol*, from ride,
BRIDLEHAND, } and *ol*, a strap or rein;
BRIDLER, } *bitol*, a bit rein; Swed.
BRIDLING. } *bitul*; Teut. *brittel*; Belg.
brýdel; Fr. *bride*; Ital. *briglia*. A bit with reins for governing a horse. The verb primarily signifies to guide or manage the horse. Metaphorically it is to rein up the head as a horse does when checked by the bridle, and to hold in; to restrain; to moderate; to govern: and the noun is applied generally to signify a restraint, a curb, or check.

And to the hors he goth him, faire and wel,
And stripeth of the *bridel*, right anon.

Chaucer's Canterbury Tales.

They hied so (they would not abide
The *bridling* her horse to ride),
By five, by six, by two, by three,
There was not one abode with me;
The queene to mete everichone
They went, and bode with me not one.

Chaucer's Dream.

Thus while his stony heart with tender ruth
Was toucht, and mighty courage mollified, ruth
Dame Venus' sonne (that teacheth stubborn youth
With yron bit, and maketh him abide,
Till like a victor on his back he ride)
Into his mouth his maystring *bridle* threw
That made him stoupe, till he did him bestride;

Then gan he make him tread his steps anew,
And learne to love, by learning lovers paines to rew.

Spenser.

The disposition of things is committed to them,
whom law may at all times *bridle*, and superiour
power controul.

Hooker.

In the turning, one might perceive the *bridlehand*
something gently stir; but, indeed, so gently, as it
did rather distil virtue than use violence.

Sidney.

With a strong, and yet a gentle hand,
You *bridle* faction, and our hearts command.

Waller.

Enough my dear brother, altho' we speak reason
Yet, truth many times being punished for treason,
We ought to be wary and *bridle* our tongue,
Bold speaking hath done both men and beasts wrong.

Murvell.

The king resolved to put that place, which some
men fancied to be a *bridle* upon the city, into the
hands of such a man as he might rely upon.

Clarendon.

They seized at last
His courser's *bridle*, and his feet embraced.

Dryden.

How hard see'er it be to *bridle* wit,
Yet memory oft no less requires the bit.

Stillingtonfleet

The queen of beauty stopped her *bridled* doves;
Approved the little labour of the Loves.

Prior.

I *bridle* in my struggling muse with pain,
That longs to launch into a bolder strain.

Addison.

A bright genius often betrays itself into many
errors, without a continual *bridle* on the tongue.

Watts.

The heat of summer put his blood into a ferment,
which affected his *bridlehand* with great pain.

Wiseman.

The wars are all over,
Our swords are all idle,
The steed bites the *bridle*,
The casque's on the wall.

Byron.

BRIDLE. The origin of the bridle is of the highest antiquity, and has been variously assigned. Pausanias attributes its invention to Minerva; Virgil (Georg. lib. iii. 115.) and Pliny, to the Lapitha Pelethronius. Many of the coins struck in the ancient towns of Thessaly represent a horse, sometimes with a rider, but often running loose with a long rein trailing on the ground, to show that the bridle was the invention of the Thessalians. The first horsemen, not being acquainted with the art of governing horses with bridles, managed them only with a rope or a switch, and the accent of the voice. This was the practice of the Numidians, Getulians, Libyans, and Massilians. The Roman youth also learned the art of fighting without bridles, which was an exercise or lesson in the manege; and hence it is, that, on the Trojan column, soldier-are represented riding at full speed without any bridles. The different parts of a modern bridle are, the bit or snaffle; the head-stall, or leathers from the top of the head to the rings of the bit; the fillet, over the fore-head, and under the fore-top; the throat-band, which buttons from the head-band under the throat; the reins, or long thongs of leather that come from the rings of the bit, and being cast over the horse's head, the rider holds them in his hand; the nose-band, going through loops of the back of the head-stall, and buckled under the

cheeks; the trench, the cavesan, the martingal, and the chaff-halter.

BRIDLES, SCOLDING. See BRANK.

BRIDLE-ARM PROTECT, in the broad-sword exercise, a guard used by the cavalry, in which you raise the sword-hilt above the helmet; the blade crossing the back of the head, the point of the left shoulder, and the bridle-arm; its edge directed to the left, and turned a little upwards in order to bring the mounting in a proper direction to protect the hand.

BRIDPORT, a borough town of Dorset, situated in a valley between two small rivers or branches of the river Brit, which falls into the sea about a mile south of the town. Bridport sends two members to parliament: it was incorporated by Henry III. The town is respectably built; its principal manufactures are cordage, nets, and sail-cloth. In the centre of the town is a new and handsome market-cross, which has been completed at the cost of £3000. Here also are a charity-school, three alms-houses, and other benevolent institutions. It is a very ancient corporation, having sent members to parliament ever since the 23d of Edw. I. In the reign of Henry VIII. it was enacted, that all the cordage, &c. for the navy, for a limited time, should be made here, or within five miles, and nowhere else; an Act which was renewed for nearly sixty years. It is noted for making ropes and cables for shipping; whence arises the proverb of a man that is hanged, that he is 'stabbed with a Bridport dagger.' It is twelve miles west of Dorchester, and 135 west by south of London. Long. 2° 52' W., lat. 50° 42' N.

BRIEF, *n. & adj.* } Lat. *brevis*; Fr. *brief*;
BRIEFLY, } Ital. *breve*; also Goth.
BRIEFNESS. } *bréf*; Tent. *brief*; Sax.
brave; Fr. *breret*; Ital. *breve*. The first generally signifies short, concise: the second is applied to a short extract; a letter patent; an abbreviated document; the concise substance of something larger, or to be expanded. Brief is technically used as a verb by those very brief gentlemen, the lawyers. For instance, to brief the pleadings.

So after in *breff* tyme, when it was pursewyd,
That she had done a woman's dede, and had a child
conseyvyd,

The joy that she made ther may no tung tell.

Chaucer's *Canterbury Tales*.

But how you must begin this enterprize,

I will your highness thus in *brief* advise.

Fairie Queene.

A play, there is, my lord, some ten words long,
Which is as *brief* as I have known a play;
But by ten words, my lord, it is too long,
Which makes it tedious.

Shakspeare.

I will be mild and gentle in my words.—

—And *brief*, good mother, for I am in haste. *Id.*

I must begin with rudiments of art,

To teach you gamut in a *brifer* sort,

More pleasant, pretty, and effectual. *Id.*

The shrine of Venus, or straight pight Minerva,
Postures beyond *brief* nature. *Id.*

There is a *brief* how many sports are ripe:

Make choice of which your highness will see first. *Id.*

They nothing doubt prevailing, and to make it *brief*
wars. *Id. Coriolanus.*

The *brief* stile is that which expreseth much in little.

Ben Jonson.

The apostolical letters are of a twofold kind and difference; viz. some are called *briefs*, because they are comprised in a short and compendious way of writing.

Ayliffe.

I doubt not but I shall make it plain, as far as a sum or *brief* can make a cause plain.

Bacon.

The harmony of science supporting each part; the other is, and ought to be, the true and *brief* confutation and suppression of all the smaller sort of objections.

Id.

I will speak in that manner which the subject requires; that is, probably, and moderately, and *briefly*.

Id.

The *brief* of this transaction is, these springs that arise here are impregnated with vitriol.

Woodward.

The modest queen awhile, with downcast eyes,
Pondered the speech; then *briefly* thus replies.

Dryden.

If I had quoted more words, I had quoted more profaneness; and therefore Mr. Congreve has reason to thank me for being *brief*.

Collier.

They excel in grandity and gravity, in smoothness and propriety, in quickness and *briefness*.

Camden.

The *brief* with weighty crimes was charged,

On which the pleader much enlarged. *Id.*

Brief, brave, and glorious, was his young career,

His mourners were two hosts, his friends and foes;

And fitly may the stranger lingering here,

Pray for his gallant spirit's bright repose.

Byron's *Childe Harold*.

BRIEF, in English law, an abridgment of the client's case, made out for the instruction of council on a trial at law; wherein the case of the party, &c. is to be briefly but fully stated: the proofs must be placed in due order, and proper answers made to whatever may be objected to the client's cause by the opposite side; and herein great care is requisite, that nothing be omitted, to endanger the cause.

BRIEF, in Scots law, a writ issued from the chancery, directed to any judge ordinary, commanding and authorising that judge to call a jury to enquire into the case mentioned in the brief, and upon their verdict to pronounce sentence.

BRIEFS, APOSTOLICAL, letters which the pope despatches to princes, or other magistrates, relating to any public affair. These briefs are distinguished from bulls, the latter being more ample, always written on parchment, and sealed with lead or green wax; whereas briefs are very concise, written on paper, sealed with red wax, and with the seal of a fisherman, or St. Peter in a boat.

BRIEG, a principality of Lower Silesia, adjoining the principalities of Oels, Breslau, and Oppeln. The extent of this tract, which is watered by the Oder, exceeds 1000 square miles. It is peopled by about 110,000 inhabitants, most of whom are Lutherans, and the remainder Roman Catholics. Good pasturage and fine crops of corn are yielded in that part which is cleared.

BRIEG, one of the circles in the above principality, contains about 200 square miles, and 30,000 inhabitants.

BRIEG, the chief town of the preceding principality, stands on the Oder, over which there is

a wooden bridge. The fortifications which once were considerable, have lately been demolished. But here is still a ducal castle worth the traveller's notice, and some few public buildings.

The Prussians, who besieged it in 1741, threw 2172 bombs into it, and 4714 cannon bullets, which reduced a great part of the town to ashes, so that it was obliged to surrender, after sustaining a continual fire for seven days. When it was ceded to Prussia by the peace, Frederic augmented the fortifications, and built a new suburb. Since 1728 a manufacture of fine cloth has been established. It is twenty-four miles north-east of Breslaw. Inhabitants about 9000.

BRIEL, or **BRILL**, a maritime town of the Netherlands, and capital of the island of Voorn, is one of the cautionary towns which was delivered into the hands of queen Elizabeth, and garrisoned by the English during her reign and part of the next. The Dutch took it from the Spaniards in 1572, and laid here the foundation of their republic. It is seated at the mouth of the Meuse, thirteen miles south-west of Rotterdam. The harbour is large and convenient, and the town well built. It was the birth place of the celebrated Van Tromp. In 1813 the inhabitants rose upon the French garrison, and drove them from the town. Here are some good fisheries, and the inhabitants are much engaged as pilots up the river.

BRIENNE, a town of Upper Champagne, France, the head of a canton in the department of the Aube. It has a considerable stocking manufacture, and stands about twenty-two miles east of Troyes. At the military school here Buonaparte received his education; and here a desperate battle was fought in 1814. Population 3,191.

BRI'ER, } Goth. *bry*; Ang.-Sax. *brær*;
BRI'ERY. } Irish, *brier*; Welsh, *brath*. A prickly bush; a bramble; a wild rose tree. Briery, rough, thorny; full of briers or prickles.

Greatly agast with this piteous plea,
Him rested the good man on the lea,
And bade the *brere* in his plaint proceede. *Spem.*

What subtle hole is this,
Whose mouth is covered with rude growing *briers*?
Shakspeare.

Then thrice under a *brier* doth creep,
Which at both ends was rooted deep,
And over it three times doth leap;
Her magic much availing. *Drayton's Nymphid.*

BRIET (Phillip), a learned French geographer, born at Abbeville in 1601. He became a Jesuit in 1619, and died librarian of their college at Paris in 1668. His *Parallela Geographia Veteris et Novæ*, published in 3 vols. 4to. 1648-9, is a very exact work. He published also *Annales Mundi*, in 7 vols. 12mo. from the creation to A.D. 1663; and *Theatrum Geographicum, Europæ Veteris*, in 1653, fol. He was likewise concerned in a chronological work with Labbé.

BRIETKOPF (John Gottlieb Immanuel), an ingenious printer and letter-founder, was born at Leipsic, in 1712. Albert Durer's work in which the shape of the letters is deduced from mathematical principles, suggested to him some valuable improvements in the art of casting types, and he became the first who cast musical types. now so

common; and applied the same method to maps and even portraits. He proved still more fortunate in his endeavours to print the Chinese characters on movable types, and produced some specimens which are much admired. He also made improvements in the composition of type-metal, but these he concealed. His works are, 1. A Treatise upon the Origin of Printing, 1774. 2. An Attempt to illustrate the Origin of Playing Cards, and 3. A small treatise on Bibliography, published in 1793. He died in 1794.

BRIEUC, or **BRIEUX** (St.), a town of France, the capital of the department the Côtes du Nord, stands on a bay, on the north coast of Upper Brittany, called Anse de St. Brieux. It is well built, and, at the village of Legné, has a small secure harbour. The inhabitants are engaged in fisheries, and a small trade in the produce and manufactures of the country. Population 8090; distance west of Paris 200 miles.

BRIG, and possibly also *brix*, is derived from the Saxon *bruc*, a bridge; which, to this day, in the northern counties, is called a *brigg*, and not a bridge. Brig, a ship with two masts.

BRIG, or **BRIGANTINE**, a merchant ship with two masts. This term is not universally confined to vessels of a particular construction, or which are masted and rigged in a manner different from all others. It is variously applied, by the mariners of different European nations, to a peculiar sort of vessel of their own marine. Amongst British seamen, this vessel is distinguished by having her main-sails set nearly in the plane of her keel; whereas the main-sails of larger ships are hung athwart, or at right angles with the ship's length, and fastened to a yard which hangs parallel with the deck; but in a brig, the foremost edge of the main-sail is fastened in different places to hoops which encircle the main-mast, and slide up and down it as the sail is hoisted or lowered. It is extended by a gaff above and a boom below.

BRIGADE, *v. & n.* } Fr. *brigade*; Ital.
BRIG'ADIER. } *brigata*; Span. *brigada*.

The idea is detached, broken away; and is applied to a party or division of soldiers separated from the main body. Cotgrave says, it means to troop or keep company together.

Or fronted *brigades* form. *Milton.*

Here the Bavarian duke his *brigades* leads,
Gallant in arms, and gaudy to behold. *Philips.*

BRIGADE, a division of forces; consisting of several squadrons of horse, or battalions of foot. A brigade of the army is either foot or dragoons, whose exact number is not fixed, but generally consists of three regiments, or six battalions: a brigade of horse may consist of eight, ten, or twelve squadrons; and that of artillery, of five guns and one howitzer, with their appurtenances. The eldest brigade has the right of the first line, and the second the right of the second; the two next take the left of the two lines, and the youngest stands in the centre.

BRIGADE MAJOR.—An officer appointed by the brigadier, to assist him in the management and ordering of his brigade. According to the regulations published by authority, a brigade-major is attached to the brigade, and not to any

particular brigadier-general, as the aid-de-camp is.

BRIGADIER-GENERAL. An officer who commands a brigade of horse or foot in an army; next in order below a major-general. A post to which the eldest colonels are generally advanced. He that is upon duty is brigadier of the day.— They march at the head of their own brigades, and are allowed a serjeant and ten men of their own brigade for their guard. But the rank of brigadier general in the British service is now abolished.

BRIGAND, } Fr. *brigand*; Ital. *brigante*;
BRIGANDAGE, } Fr. *brigantine*; Ital. *brigante*;
BRIGANDER, } *fino.* An associated robber;
BRIG'ANTINE, } a freebooter; a smuggler.—
BRIG'ANDIZE. Brigandine and brigander,
 armour worn by brigands. Brig and brigantine,
 a vessel used by brigands and pirates.

Like as a warlike *brigandine*, applied
 To fight, lays forth her threatful pikes afore
 The engines, which in them sad death do hide.

Spenser.

There might be a rout of such barbarous thieves
brigands in some rocks; but it was a degeneration
 from the nature of man, a political creature.

Branthall against Hobbes.

In your *brigantine* you sailed to see
 The Adriatick wedded.

Otway's Venice Preserved.

The consul obliged him to deliver up his fleet, and
 restore the ships, reserving only to himself two *brig-*
antines.

Arbutnot.

Then put on all thy gorgeous arms, thy helmet
 And *brigandine* of brass, thy broad habergeon,
 Vantbrass, and greves. *Milton's Samson Agonistes.*

BRIGANDINES were a kind of ancient defensive
 armour, consisting of thin jointed scales
 of plate, pliant and easy to the body.

BRIGANTES, an ancient people of Britain,
 who occupied the territory from sea to sea, the
 whole breadth of the island; now called York-
 shire, Lancaster, Durham, Westmoreland, and
 Cumberland.

BRIGANTINUS LACUS, in ancient geogra-
 phy, a lake of Rhetia, or Vindelicia, which
 Tacitus includes in Rhetia. Ammianus calls it
 Brigantia. It took its name either from the
 Brigantii, or from the adjoining town. It is now
 called Constance or Bodensee.

BRIGANTINUS PORTUS, in ancient geography,
 a port of the Iberian Spain; so called from
 Flavius Brigantium; now El Puerto de la Co-
 runna, formerly the Groynne.

BRIGANTIUM, in ancient geography, a
 town in the Alpes Cottiae, now thought to be
 Briançon.

BRIGGS (Henry), one of the greatest mathe-
 maticians of the sixteenth century, was born at
 Warley Wood, Yorkshire, in 1556. In 1592 he was
 made examiner and lecturer in mathematics, and
 soon after reader of the physical lecture founded
 by Dr. Linacre. When Gresham College was
 established, he was chosen the first professor of
 geometry there in 1596. In 1609 he contracted
 an intimacy with Mr. Usher, afterwards arch-
 bishop of Armagh, which continued many years.
 In 1619 he was made Savilian professor of
 geometry at Oxford; and resigned his professor-

ship of Gresham College on the 26th of July
 1620. Soon after going to Oxford, he was made
 M.A. in that university; where he continued
 till his death on January 26th 1630. His prin-
 cipal works are, 1. *Logarithmorum Chilium*
Prima. 2. *Arithmetica Logarithmica.* 3. *Tri-*
gonometria Britannica. 4. A small tract on the
 north-west passage.

BRIGGS (William), an eminent physician in
 the latter end of the seventeenth century. He
 studied physic at Cambridge, and afterwards trav-
 elled into France, where he attended the lectures
 of the famous anatomist M. Vieussens of Mont-
 pelier. After his return, he published his
Ophthalmographia, in 1676. In 1677 he was
 created M.D. at Cambridge: and soon after
 was made fellow of the College of Physicians, at
 London. In 1682 his *Theory of Vision* was
 published by Hooke. In 1683, he sent to the
 Royal Society a continuation of that discourse,
 which was published in their transactions; and
 the same year he was, by king Charles II. ap-
 pointed physician to St. Thomas's hospital. In
 1684 he communicated to the Royal Society two
 remarkable cases relating to vision, which were
 also printed in their transactions; and, in 1685,
 he published a Latin version of his *Theory of*
Vision, at the desire of Mr. afterwards Sir Isaac
 Newton, professor of mathematics at Cambridge,
 with a recommendatory epistle from him prefixed
 to it. He was afterwards made physician in
 ordinary to king William, and continued in great
 esteem for his skill in his profession till his death,
 which happened September 4th, 1704.

BRIGHT,	} Goth. <i>biart</i> , <i>bart</i> ; Mod. Goth. <i>bairt</i> ; Sax. <i>beort</i> , braeht, bryht; Teut. <i>bert</i> , <i>brecht</i> ; Welsh, <i>berth</i> , Swed. <i>bur</i> ; Goth. <i>ber</i> , <i>bart</i> ; our bare. Signified not only naked, but ma- nifest, clear, conspicuous, illustrious.
BRIGHT'EN,	
BRIGHT'LY,	
BRIGHTNESS,	
BRIGHT'SOMENESS,	
BRIGHT'ARMED,	
BRIGHT'BURNING,	
BRIGHT'EYED,	
BRIGHT'HAired.	

The birds that han left hir songe,

While they han suffred colde ful stronge,

In wethers grille and dark to sight,

Ben in Mey, for the sunne bright

So glad, that they shewe in singing

That in her hert is suche liking

That thei mote singen and ben light.

Chaucer. Romaunt of the Rose.

The purp our sone with tendir beymys reid,

In orient bright as angell did appeir,

Throw golden sky is putting up his heid

Quhois gilt tressis schone so wondir cleir

That all the world tuke comfort far and neir.

Dunbar. Thistle and Rose.

High above all a cloth of state was spred,

And a rich throne as bright as sunny day;

On which there sat, most brave embellished

With royall robes and gorgeous array,

A mayden queene that shone as Tytan's ray

In glistring gold and pcelesse pretious stone;

Yet her bright blazing beauteie did assay

To dim the brightness of her glorious throne,

As envying herselfe, that too exceeding shone.

Spenser.

The blazing brightness of her beauty's beam,

And glorious light of her sun-shining face,

To tell, were as to strive against the stream.

Fairie Queene.

Hope elevates and joy

Brightens his crest. *Milton's Paradise Lost.*

Through a cloud

Drawn round about thee like a radiant shrine,
Dark, with excessive *bright*, thy skirts appear. *Id.*

The purple morning, rising with the year,
Salutes the spring, as her celestial eyes
Adorn the world, and *brighten* up the skies. *Dryden.*

A sword, by long lying still, will contract a rust,
which shall deface its *brightness*. *South.*

Bright brass, and *brighter* domes. *Chapman.*

Thy eyes are seen in diamonds *bright*. *Gay.*

Bright as the sun her eyes the gazers strike. *Pope.*

If parts allure thee, think how Bacon shined,
The wisest, *brightest*, meanest of mankind. *Id.*

But let a lord once own the happy lines,
How the stile *brightens*, how the sense refines. *Id.*

Safely I slept, till *brightly* dawning shone
The morn, conspicuous on her golden throne. *Id.*

Generous, gay, and gallant nation,
Great in arms, and *bright* in art. *Anonymous.*

The present queen would *brighten* her character, if
she would exert her authority to instil virtues into her
people. *Swift.*

O Liberty, thou goddess heavenly *bright*,
Profuse of bliss, and pregnant with delight ! *Addison.*

From the *brightest* wines

He'd turn abhorrent. *Thomson.*

While the *bright* Seine, to' exalt the soul,
With sparkling plenty crowns the bowl. *Fenton.*

Thy beauty appears,
In its graces and airs,
All *bright* as an angel new dropped from the sky.
Parnel.

An ecstasy, that mothers only feel,
Plays round my heart, and *brightens* all my sorrow,
Like gleams of sunshine in a louring sky. *Philips.*

This is the worst, if not the only stain,
I' the *brightest* annals of a female reign. *Cotton.*

As stars that shoot along the sky
Shine *brightest* as they fall from heaven. *Byron.*

Childe Harold.

But still

Yon sunny sea heaves *brightly*, and remains
Rolled o'er the peak of the far Rhætan hill
As day and night contending were, until
Nature reclaimed her order. *Id.*

BRIGHTHELMSTONE, or, as it is more commonly called, BRIGHTON, a sea-port town of Sussex, situated at the bottom of a bay formed by Beachy Head and Worthing Point, in the English channel. Though a place of some antiquity, it was inhabited until very recently by only a few families of fishermen. It has now, however, increased into one of the most fashionable sea-bathing places in the kingdom. It is seated on a gently declining eminence, at whose base spreads a lawn called the Steine, now surrounded with many new streets and elegant buildings, the chief of which are lodging-houses. The Steine and Marine Parade are much frequented by fashionable visitants; the promenade commencing after the heat of the day, and continuing until dark, a choice band of music generally playing all the while. His Majesty has a palace here called the Marine Pavilion, fitted up with great magnificence and characteristic taste. It is situate on the north-west of the Steine, and was erected in 1784, with a handsome sea-front

extending 200 feet, in the centre of which is a circular building, having a lofty dome raised on pillars. Two wings, lately added to the fabric, render its portions complete. In the interior the style and furniture is mostly Chinese. Towards the street the front forms a square, with a colonnade in the centre, looking over a green, formerly the road. On the north side of what was called the Promenade Grove, a splendid building has been lately erected, fitted up as stabling, in the centre of which is a lofty dome; on the eastern side is a racket court, and on the west a riding-house. Here are several public libraries and reading-rooms, furnished with all the newspapers, periodical publications, &c.; they are generally well attended: the loo-tables, and singing, in the evening, afford considerable amusement; in addition to the libraries are suites of hot, cold, vapor, and salt-water baths, and air-pump water baths, for the relief of persons afflicted with the gout, or violent scorbutic affections: a swimming-bath has also been erected, upon a very extensive scale. The streets often intersect each other at right angles, and are very clean, neat, and well paved. The hotels and boarding-houses are numerous, and fitted up in the most elegant manner. The parish church of Brighton stands on a hill, at a small distance from the town, and has a square tower, which may be seen a considerable way off at sea. On account of the increase of population, a chapel royal has been erected, within these few years, in the centre of the town. Here are likewise a Quakers' meeting-house, a Baptists', Independents', Methodists', a Roman Catholic chapel, and a Jews' synagogue. About half a mile west of the church is a chalybeate spring, much frequented. Among recent improvements Regency Square deserves to be noticed; the houses are large and handsome; one side of the square being open to the sea, and the centre forming a well-planned garden. An extensive and commodious suspension chain-pier has been just completed, at an expense of £30,000, under the superintendence of captain Brown, R.N. It is founded on four clumps of piles, 258 feet distant, driven nearly ten feet into the rock, and rising thirteen feet above high water mark. The three first clumps contain twenty piles each, and the fourth, or outer clump, which is in the form of a T, contains 150 perpendicular and diagonal piles, strongly braced together; the cross part of which is paved with about 200 tons of Purbeck stones, and, beneath, are galleries and flights of steps, for the convenience of landing and embarkation. The pier, which is 1154 feet long and thirteen wide, with a neat cast-iron railing on each side, is supported by eight chains, each containing 117 links ten feet long, six and a quarter in circumference, and weighing 112 lbs. which is made fast to the cliff on shore. The chains, four in number, pass from the cliff, over towers of cast iron (one on each clump of piles), with a dip of eighteen feet, secured at the outer clump of piles, and from which are suspended 362 rods connected by an iron bar, on which the platforms rest. The length of the esplanade from the Steine to the commencement of the pier is 1250 feet, along which the carriages pass. Brighton

is scarcely observable at sea, and in several bombardments the balls have gone over it without doing any damage. Since the peace it has been considerably benefitted by travellers to France, embarking hence, by the steam-packets, to Dieppe, and through Rouen to Paris. The only manufacture is the making of nets for the use of the fishery, which employs about 100 boats. The mackarel season commences in April, and the herring-fishery in October. The principal market is on Thursday, but it is open every day except Sunday, and is well and reasonably supplied with provisions. The South Down mutton is particularly admired. The downs around afford the invalid delightful rides, and a pleasing landscape. The race-ground is also admired; the race-week, which is the last in July, is esteemed the fullest part of the season. Near to Brighton, on the road to Rottingdean, is Kemp Town, a modern erection, which derives its name from its founder, T. R. Kemp, Esq. and which for magnificence, extent, and the rapidity with which it has been erected, is one of the most splendid wonders of the age. Brighton is fifty-two miles south of London.

BRIGITTINS, or **BRIDGETINS**, a religious order, denominated from their founder St. Bridget. The Brigittins are sometimes also called the Order of Our Saviour; it being pretended that Christ himself dictated their rules and constitutions to St. Bridget. In the main, the rule is that of St. Augustine; only with additions, pretended to have been revealed by Christ. The first monastery of the Brigittin order was erected by the foundress, A. D. 1344, in the diocese of Lincopen; on the model of which all the rest were formed. The constitution of these houses is very singular; though the order was principally intended for nuns, who were to pay a special homage to the Holy Virgin, there are also many friars of it, to minister to them spiritual assistance. The number of nuns is fixed at sixty in each monastery, and that of friars to thirteen, answerable to the number of apostles, of whom St. Paul made the thirteenth; besides which there are four deacons to represent the four doctors of the church, St. Ambrose, St. Augustine, St. Gregory, and St. Jerome; and eight lay brothers; making, together with the nuns, the number of the seventy-two disciples. The order being instituted in honor of the Virgin, the direction is committed to an abbess, who is superior both of the nuns and of the friars. Each house consists of two convents or monasteries, separately enclosed, but having one church in common; the nuns being placed above, and the friars on the ground. The Brigittins profess great mortification, poverty, and self-denial, as well as devotion; and they are not to possess any thing they can call their own; nor even to touch money on any account. This order spread much through Sweden, Germany, the Netherlands, &c. In England we read of but one monastery of Brigittins, built by Henry V. in 1415, opposite to Richmond, now called Sion House; the ancient inhabitants of which, after the dissolution, settled at Lisbon. The revenues were reckoned at £1495 per annum.

BRIGNOLLES, a town of France, in Lower

Provence, department of the Var, celebrated for the excellent prunes raised in the neighbourhood, and so called from this town. It lies in an agreeable valley between the mountains which give rise to the Calamie. It was formerly noted for its numerous religious houses. Twenty miles north of Toulon, and thirty-three east of Aix.

BRIHUEGA, a fortified town of New Castile, founded by Alonzo, king of Leon, in the year 1071. It was formerly a place of great strength, and has still an old castle. Its staple manufacture is fine cloth, and its principal trade is in wool. Here general Stanhope, with eight squadrons and eight battalions of the English army, were taken prisoners by the duke of Vendome in 1710, after they had separated themselves from count Staremberg. It is seated on the river Tajuna, forty miles north-east of Madrid.

BRIL (Matthew), a native of Antwerp, and a good painter, born in 1550, and educated at Rome. He was eminent for his performances in history and landscape, in the galleries of the Vatican; where he was employed by pope Gregory XIII. He died in 1584, aged only thirty-four.

BRIL (Paul), was born in 1554; followed his brother Matthew to Rome; painted several things in conjunction with him; and after his decease, raised his own fame by his landscapes, owing to his having studied the manner of Annibal Caracci, and copied some of Titian's works of the same kind. He was much in favor with pope Sixtus V. and painted for his successor Clement VIII. the famous piece about sixty-eight feet long, wherein St. Clement is represented cast into the sea with an anchor about his neck. He died at Rome in 1526, aged seventy-two.

BRILLIANCY, } *Fr. brillant; Ital.*
BRILLIANT, n. & adj. } *brillante; Teut.*
BRILLIANTLY. } *Dan. brille; a magnifying glass; supposed to be from beryl, which anciently was greatly esteemed and used in sorcery. A fine diamond. Shining; sparkling; resplendent.*

So have I seen in larder dark

Of veal a lucid loin,

Replete with many a *brilliant* spark,

As wise philosophers remark,

At once both stink and shine.

Dorset.

In deference to his virtues, I forbear

To shew you what the rest in orders were;

This *brilliant* is so spotless and so bright,

He needs not foil, but shines by his own proper light.

Dryden.

When the ornaments, applied to a style, are too rich and gaudy in proportion to the subject; when they return upon us too fast, and strike as either with a dazzling lustre or a false *brilliance*; this forms what is called a florid style, a term commonly used to signify the excess of ornament.

Blair's Lectures.

—Beneath the glittering morn

An Iris sits, amidst the infernal surge,

Like Hope upon a death-bed, and, unworn

Its steady dyes, while all around is torn

By the distracted waters, hears serene

Its *brilliant* hues with all their beams unshorn;

Resembling, 'mid the torture of the scene,

Love watching Madness with unalterable mien.

Byron. Child's Harold

BRILLIANT, in the menage, is applied to a brisk, high mettled, stately horse, having a raised neck, a fine motion, and excellent haunches, upon which he rises, though ever so little put on.

BRIM, *v. n. & adj.* } Goth. *brim*; *brin*; Germ. *brimm*; Sax. *brymn*; Swed. *bram*. The upper edge; the top; the bank of a fountain. To fill to the top; full; over-charged.

The feet of the priests, that bare the ark, were dipped in the *brim* of the water. *Joshua*, iii. 15.

His wallet lay before him, in his lappe,
Bret-full of pardon come from Rome al hote.

Chaucer. Cant. Tales.

A mantelet upon his shoulders hanging
Bret-ful of rubies red, as fire sparkling.

Id. The Knights Tale.

———, this house, in alle times,
Was ful of shypmen, and pilgrimes;
With scrippes *bretteful* of lesinges,
Entermedeled with tidinges.

Id. House of Fame.

His hat being in the form of a turban, daintily made,
the locks of his hair came down about the *brims* of it.

Bacon.

Measure my case, how by thy beauty's filling
With seed of woes my heart *brimful* is charged.

Sidney.

We have try'd the utmost of our friends;
Our legions are *brimful*, our cause is ripe.

Shakespeare's Julius Cæsar.

The Scot on his unfurnished kingdom
Came pouring like a tide into a beach,
With ample and *brimfulness* of his force.

Id. Henry V.

It told me it was Cynthia's own,
Within whose cheerful *brims*

That curious nymph had oft been known
To bathe her snowy limbs. *Drayton.*

May thy *brimmed* waves,
Their full tribute never miss,
From a thousand rills, *Milton.*

How my head in ointment swims!
How my cup o'erlooks her *brims*. *Crashaw.*

And twice besides her beestings never fail
To store the dairy with a *brimming* pail. *Dryden.*

When Leaths go round, and kindly *brimmers* flow,
Till the fresh garlands on their foreheads glow. *Id.*

So when with crackling flames a cauldron fries,
The bubbling waters from the bottom rise,
Above the *brims* they force their fiery way. *Id. Æneid.*

Her *brimful* eyes, that ready stood,
And only wanted will to weep a flood,
Released their watery store. *Id. Fables.*

Thus in a bason drop a shilling,
Then fill the vessel to the *brim*.
You shall observe, as you are filling,
The ponderous metal seems to swim. *Swift.*

The good old king at parting wrung my hand,
His eyes *brimful* of tears; then sighing cryed,
Prithee, be careful of my son. *Addison's Cato.*

Now horrid frays
Commence, the *brimming* glasses now are hurl'd
With dire intent. *Philips.*

Observant round
Gay stripling youths the *brimming* goblets crown'd.
Pope's Odyssey.

Yet time, who changes all, had altered him
In soul and aspect as in age: years steal
Fire from the mind as vigor from the limb:

And life's enchanted cup but sparkles near the *brim*.
Byron. Childs Harold.

And the small ripple spilt upon the beach
Scarcely o'erpass'd the cream of your champagne,
When o'er the *brim* the sparkling bumpers reach
That spring dew of the spirit! the heart's rain.

Byron.

BRIM', *v. a. & adj.* } Goth. *brima*. To become
BRIMMING. } salacious and in heat; hot,
furious, violent, fierce. Obsolete.

BRIMSTONE, } Goth. *brinna*. To burn;
BRIMSTONY. } corrupted from *bren*, or *bren-*
stone; that is, fiery stone. Sulphur. See SUL-
PHUR.

From his infernal furnace forth he threw
Huge flames, that dimm'd all the heaven's light,
Enroll'd in dusky smoke and *brimstone* blue.

Færie Queene

To drive him to despair, and quite to quail,
He shewed him painted in a table plain,
The damned ghosts, that do in torments wail,
With fire and *brimstone*, which for ever shall remain.

Spenser

And so we may arrive by Talmud skill
And profane Greeke to raise the building up
Of Helen's house, against the Ismaelite
King of Thogarna, and his Habergions
Brimstony, blue and fiery. *Ben Jonson.*

The vapour of the grotto del Cano is generally sup-
posed to be sulphureous, though I can see no reason
for such a supposition: I put a whole bundle of lighted
brimstone matches to the smoke, they all went out in
an instant. *Addison on Italy.*

BRIN, or BRINN, a strong town of Bohemia,
in Moravia. It is large and well built; the
Assembly of the States was held alternately here
and at Olmutz. The castle of Spilberg is on an
eminence out of the town. It was invested by
the king of Prussia in 1742, but he was obliged
to raise the siege. It is near the Swart.

BRIN'DED, *adj.* } Frequentative of brand.
BRIN'DLE, *v.* } To variegate by fire; to
BRIN'DLED. } produce different shades
of singed color. Used in the sense of streaky,
tabby, marked with streaks.

Thrice the *brinded* cat hath mewed.

Shakespeare's Macbeth.

She tamed the *brinded* lioness

And spotted mountain pard. *Milton.*

My *brinded* heifer to the stake I lay;

Two thriving calves she suckles twice-a-day.
Dryden.

The boar, my sisters! aim the fatal dart,
And strike the *brindled* monster to the heart.

Addison's Ovid.

A natural *brindle*. *Clarissa.*

BRINDISI, anciently Brundusium, a cele-
brated town of Naples, in the Terra d'Oranto,
with an archbishop's see. Its walls are still of
great extent, but the inhabited houses do not fill
above half the enclosure. The streets are crooked
and rough; and the buildings poor and ruinous;
without any remarkable church or edifice. The
cathedral, dedicated to St. Theodore, is a work
of king Roger's, but not equal in point of archi-
tecture to many churches founded by that mo-
narch. Little remains of ancient Brundusium,
except innumerable broken pillars fixed at the

corners of streets to defend the houses from carts; the column of the lighthouse; a large marble basin, into which the water runs from brazen heads of deer; some inscriptions, ruins of aqueducts, coins, and other small furniture for an antiquary's cabinet. Its castle, built by the emperor Frederick II. and repaired by Charles V. to protect the northern branches of the harbour, is large and stately. The port is double, and the finest in the Adriatic; the outer part being formed by two promontories, which stretch off gradually from each other as they advance into the sea, leaving a very narrow channel at the base of the angle. The island of St. Andrew, on which Alphonso I. built a fortress, lies between the capes, and secures the whole road from the fury of the waves. In this triangular space large ships may ride at anchor. At the bottom of the bay the hills recede in a semi-circular shape, to leave room for the inner haven; which as it were clasps the city in its arms, or rather encircles it in the figure of a stag's head and horns. This form is said to have given rise to the name of Brundisium, which in the old Messapian language signified the head of a deer. In ancient days the communication between the two havens was marked by lights, placed upon columns of the Corinthian order, standing on a rising ground in a direct line with the channel. Of these one remains entire upon its pedestal. From the obstructions in the channel, which communicates with the two havens, arise the evils that afflict and desolate this unhappy town. The low grounds at each end of the harbour are overflowed and converted into marshes, the vapors of which created every summer a real pestilence; and in the course of very few years swept off, or drove away, the largest portion of the inhabitants. From the number of 18,000 they were reduced in 1766 to that of 5000 livid wretches, tormented with agues and malignant fevers, and in 1755 above 1500 persons died during the autumn. This state of misery and destruction induced the remaining citizens to apply for relief to the king's ministers. The channel has been partly cleared, and has now two fathoms of water. It will admit large boats, a great step towards the revival of trade; but what is of more immediate importance, it gives a free passage to the sea, which now rushes in with impetuosity, and runs out again at each tide; so that the water of the inner port is set in motion, and once more rendered wholesome. The workmen, in cleaning the channel, found some medals and seals, and drew up many of the piles that were driven in by Cæsar. They are small oak stripped of their bark, and still as fresh as if they had been cut only a month, though buried above eighteen centuries, seven feet under the sand. The soil about the town is light and good. It produces excellent cotton, with which the Brindisians manufacture gloves and stockings. In the year of Rome 509 the Romans first sent a colony hither. Pompey took refuge here; but finding his post untenable, made a precipitate retreat to Greece. In this city Octavianus first assumed the name of Cæsar, and here he concluded a short-lived peace with Antony. Brundisium had been already celebrated for giving birth to

the tragic poet Pacuvius, and about this time became remarkable for the death of Virgil. The barbarians, who ravaged every corner of Italy, did not spare so rich a town; and in 836 the Saracens at last gave a finishing blow to its fortunes. The Greek emperors, sensible of the necessity of having such a port as this in Italy, would have restored it to its ancient strength and splendor, had the Normans allowed them time and leisure. The Greeks struggled manfully to keep their ground; but, after many varieties of success, were finally driven out of Brindisi by William I. The frenzy for expeditions to Palestine, though it drained other kingdoms of their wealth and subjects, contributed powerfully to the re-establishment of this city, one of the ports where pilgrims and warriors took shipping. It also benefitted by the residence of the emperor Frederick, whose frequent armaments for the Holy Land required his presence at this place of rendezvous. The loss of Jerusalem, the fall of the Grecian empire, and the ruin of all the Levant trade after the Turks had conquered the East, reduced Brindisi to a state of inactivity and desolation, from which it has never been able to emerge. Long. 17° 45' E., lat. 40° 25' N.

BRINDLEY (James), celebrated for his mechanical invention, was born in 1716, at Tunstead, in Derbyshire. Through the mismanagement of his father, who possessed some little property, his education was totally neglected; and at seventeen he bound himself apprentice to a millwright, near Macclesfield, in Cheshire. He served his apprenticeship; and, afterwards setting up for himself, effected various improvements in the millwright business. His fame as an ingenious mechanic spreading widely, he was employed in 1752 to erect a water-engine, at Clifton, in Lancashire, for the purpose of draining coal-mines; and in 1755 to execute the larger wheels for a new silk-mill at Congleton, in Cheshire. The potteries of Staffordshire were also, about this time, indebted to him for several valuable additions in the mills used by them for grinding flint stones. In 1756 he undertook to erect a steam-engine near Newcastle-under-Line, upon a new plan; and it is believed would have brought this machine to a great degree of perfection, if some interested engineers had not opposed him. His attention, however, was soon afterwards called off to another object, which, in its consequences, has proved of still higher importance to the trade of his country, namely, inland navigation. The duke of Bridgewater had, at Worsley, about seven miles from Manchester, a large estate abounding with coal, which was hitherto useless, because the expense of land-carriage was too great to find a market for its consumption. The duke, wishing to work these mines, perceived the necessity of a canal from Worsley to Manchester; upon which occasion Brindley, now become famous, was consulted; and declaring the scheme practicable, an act for this purpose was obtained in 1758 and 1759. It being, however, afterwards discovered that the navigation would be more beneficial if carried over the river Irwell to Manchester, another act was obtained to vary the course of the canal agreeable to the new plan, and to extend a side

branch to Longford bridge in Stretford. Brindley, in the meantime, had begun these great works, being the first of the kind ever attempted in England with navigable subterranean tunnels and elevated aqueducts; and as, in order to preserve the level of the water, it was necessary for it to be free from the usual obstructions of locks, he carried the canal over rivers, and many large and deep valleys. When it was completed as far as Barton, where the Irwell is navigable for large vessels, he proposed to carry it over that river by an aqueduct of thirty-nine feet above the surface of the water; and though this was treated as a wild and chimerical project, yet, supported by his noble patron, he began the works in September, 1760, and the first boat sailed over in July, the following year. The duke afterwards extended his ideas to Liverpool, and obtained, in 1762, an act for branching his canal to the tideway in the Mersey: this part of the canal is carried over the rivers Mersey and Bolland, and many wide and deep valleys. The success of the duke of Bridgewater's undertakings now encouraged a number of gentlemen and manufacturers in Staffordshire to revive the idea of a canal navigation through that country; and Brindley was engaged to make a survey from the Trent to the Mersey. In 1766 this canal was begun, and conducted under his direction as long as he lived. The proprietors called it, 'the canal from the Trent to the Mersey; but the engineer, more emphatically, 'the Grand Trunk Navigation,' on account of the numerous branches, which, as he justly supposed, would be extended every way from it. It is ninety-three miles in length; and, besides a great number of bridges over it, has seventy-six locks and five tunnels. The most remarkable of the latter is the subterraneous passage of Harecastle, being 2880 yards in length, and more than seventy yards below the surface of the earth. The scheme of this navigation had employed the thoughts of several ingenious men for upwards of twenty years before, and some surveys had been made; but Harecastle hill, through which the tunnel is constructed, could neither be avoided nor overcome by any expedient the most able engineers could devise. It was for Brindley alone to surmount this difficulty and similar ones. Mr. Brindley was engaged in many other undertakings; and died in possession of well-earned fame, and a considerable fortune, at Turnhurst, in Staffordshire, September the 27th, 1772, in his fifty-sixth year. He is supposed to have shortened his days by too intense application to his profession. His habits were very peculiar: he never indulged or relaxed himself with the common diversions of life, not having the least relish for them: when once prevailed on to see a play in London, he declared he would on no account be present at another, for it so disturbed his ideas for several days as to render him unfit for business. With a most imperfect education, he never seems to have had the common recourse to pen and paper for his plans. If any extraordinary difficulty occurred in the execution of his works, he would retire to bed, and has been known to lie there one, two, or three days, in meditation, till he had surmounted it. He would then rise, and

execute his design without any drawing or model. He could read and write, it is said, but very indifferently; and was, perhaps, as *abnormis sapiens*—as 'wise without the schools,' as any man that ever lived. 'As plain a looking man as one of the boors in the Peak, or one of his own carters,' says a contemporary writer; 'when he speaks, all ears listen, and every mind is filled with wonder at the things he pronounces to be practicable. Great in himself, he harbors no contracted notions, no jealousy of rivals; he conceals not his methods of proceeding, nor asks patents to secure the sole use of the machines which he invents and exposes to public view; and, sensible that he must one day cease to live, he selects men of genius, teaches them the power of mechanics, and employs them in carrying on the various undertakings in which he is engaged. His powers shine most in the midst of difficulties; when rivers and mountains seem to thwart his designs then appears his vast capacity, by which he makes them subservient to his will.' Darwin thus beautifully characterises the works of this kindred genius:—

So with strong arm immortal Brindley leads
His long canals, and parts the velvet meads;
Winding, in lucid lines, the watery mass,
Mines the firm rock, or loads the deep morass;
With rising locks a thousand hills alarms,
Flings o'er a thousand streams its silver arms,
Feeds the long vale, the nodding woodland lawns,
And plenty, arts, and commerce freight the waves.

Botanic Garden, Canto iii.

BRINDONES, in natural history, the name of a fruit of the East Indies, called by John Bauhin, and some other botanical writers, *Indici fructus rubentes acidi*. It is by many accounted delicious, notwithstanding its great sharpness; and is used in dyeing, and in making vinegar.

BRINE', } Ang.-Sax. *brein*, *bryn*, *brym*;
BRINISH, } Goth. *bara*. The tide; the sea;
BRIN', } water impregnated with salt;
BRINEPIT. } tears as they are salt; brinepits;
a pit of salt water.

Nero would be tainted with remorse
To hear and see her plaints, her *brinish* tears.

Shakspeare.

For now I stand as one upon a rock,
Environd with a wilderness of sea,
Who marks the raving tide grow wave by wave;
Expecting ever when some envious surge
Will, in his *brinish* bowels, swallow him. *Id.*

'Then I loved thee,
And shewed thee all the qualities o' the' isle,
The fresh springs, *brinepits*, barren place, and fertile. *Id.*

What a deal of *brine*

Hath washed thy sallow cheeks for Rosaline! *Id.*

All but mariners,

Plunged in the foaming *brine*, did quit the vessel,
Then all afire with me. *Id. Tempest.*

The encreasing of the weight of water will encrease
its power of bearing; as we see *brine*, when it is salt
enough, will bear an egg. *Bacon's Natural History.*

The air was calm, and on the level *brine*

Sleek Panope, with all her sisters played.

Milton.

Dissolve sheeps' dung in water, and add to it as
much salt as will make a strong *brine*; in this liquor
steep your corn. *McLINTOCK.*

As when two adverse winds
Engage with horrid shock, the ruffled brine
Roars stormy. *Philips.*

So watery fowl, that seek their fishy food,
With wings expanded o'er the foaming flood
Now sailing smooth the level surface sweep,
Now dip their pinions in the briny deep.

Pope's Odyssey.

He, who first the passage tried,
In hardened oak his heart did hide;
Or his, at least, in hollow wood,
Who tempted first the briny flood. *Dryden.*

Then, briny seas, and tasteful springs, farewell,
Where fountain nymphs, confused with Nereids dwell.
Addison.

A muriatick or briny taste seems to be produced by a mixture of an acid and alkaline salt; for spirit of salt, and salt of tartar, mixed, produce a salt like sea salt. *Arbuthnot.*

With thee my bark I'll swiftly go
Athwart the foaming brine. *Eyron.*

BRINE, is either native, as the sea-water, which by coction turns to salt; or factitious, formed by dissolving salt in water. For a description of the process of obtaining salt from brine, see SALT-WORKS.

BRINE, taken out of brine-pits, or brine-pans, used by some for curing or pickling of fish without boiling it into salt; and rock-salt, without refining it into white salt, are prohibited by 1 Ann. cap. 21.

BRINE-PANS, the pits wherein the salt water is retained and suffered to stand to bear the action of the sun. There are divers sorts of salt-pans, as the water-pans, second-pans, sun-pans; the water being transferred only from one to another.

BRINE-PIT, in salt making, is the salt-spring whence the water to be boiled into salt is taken. There are of these springs in many places; that at Namptwich, in Cheshire, is alone sufficient, according to the account of the people of the place, to yield salt for the whole kingdom; but it is under the government of certain regulators, who, that the market may not be overstocked, will not suffer more than a certain quantity of the salt to be made yearly.

BRINE-SPRINGS are fountains which flow with salt water instead of fresh. Of these there are a good number in South Britain, but, though not peculiar to this island, they are far from being common on the continent. There is a remarkable one at East Chennock, in Somersetshire, about twenty miles from the sea. There is another at Leamington, in Warwickshire, very near the river Leam; which, however, is but weak. A third runs into the river Cherwell, in Oxfordshire; and there are several more in Westmoreland and Yorkshire: but as they are weak, and the fuel in most of those counties is scarce and dear, no salt is prepared from them. At Barrow-deal, near Grange, three miles from Keswick in Cumberland, a pretty strong spring rises in a level, near a moss, sixteen gallons of the water of which yield one of pure salt, which is remarkable, as the same quantity of salt cannot be obtained from less than twenty-two gallons of the water of the German ocean. At Salt-water Haugh, near Butterby, in Durham,

there are a multitude of salt springs, which rise in the middle of the river Weare, for the space of about forty yards in length and ten in breadth; but particularly one out of a rock, which is so strong that in a hot summer's day the surface is covered with a pure white salt. At Weston, in Staffordshire, there are brine-springs which afford about a ninth part of very fine white salt. There are others at Enson St. Thomas, and in the parish of Ingestre, but so weak that they are not wrought; though it is believed that by boring stronger springs might be found in the neighbourhood. In Lancashire there are several salt springs, but (if we except those at Barton, which are as rich as the spring at Northwich,) by no means so famous as those of Cheshire, called in general by the name of the Wiches. Namptwich, on the river Weever, has a noble spring not far from the river, which is so rich as to yield one-sixth part of pure white salt. At Northwich, six miles distant, at the confluence of the Weever and the Dan, the brine is still richer; for six ounces of salt are obtained from sixteen of water. The inhabitants of Wales, who, before that country was incorporated with England, were supplied chiefly, if not solely, with that necessary commodity from these two towns, called the former Hellath Wen, and the latter Hellath Du, i. e. the white and black salt-pit. In 1670 a rock of salt was discovered at a small distance from Northwich, which has been wrought to a great depth, and to a vast extent, so as to be justly esteemed one of the greatest curiosities in England; and it is highly probable, that there is an immense body of fossil salt in the bowels of the earth, under this whole country; for, upon boring, brine-pits have been found in many places on both sides of the Weever. This is the more likely, since at Middlewich, which stands at the confluence of the Croke and the Dan, there are salt-springs with a fresh brook running between them. The brines from these pits are of unequal strength; but when mixed, they commonly obtain four ounces of salt from a pound of brine. In these springs the water is strongest nearest the bottom, richer in dry weather than in wet, and when long drawn than when first wrought. But these are no rules in respect to other salt springs, for in those of Franche Comté the brine is strongest in wet weather. There are several other bodies dissolved in these brines besides salt; in some a sulphureous substance, which sublimates as the brine heats; a sort of dirty ochre which discolors the brine, but, if suffered to stand, speedily subsides; and in most brines a calcareous, or rather selenitic earth which settles to the bottom of the pan. See SALT and SPRING.

BRING', } Goth. *briggs*; Mod. Goth.

BRINGER, } *briggan*; Swed. *bringa*; Dan.

BRING'ING. } *bringe*; Sax. brytan, brycean, bringan; Teut. *baeren, bringen*; Belgic, *bringen*.

In the preterperfect and perfect tenses it became, in different dialects, *brigt, brigid, brid, brat, brot, brogt, broht*; to bear, fetch, conduct, draw, lead, produce, breed. So many are the applications of this word, so various the senses in which it is employed, that we must set them down distinctly with their illustrations from Dr. Johnson, for

they cannot be condensed or abridged without injury.

To fetch from another place: distinguished from to carry, or convey, to another place.

I wol bewaile, in manere of tragedie,
The harm of him that stode in high degree,
And fellen so that ther n' a no remedie
To bring him out of his adversitee.

Chaucer's Canterbury Tales.

Bring hither the pincke and purple cullambine,
With gelliflowers;
Bring coronations, and sop in wine,
Worne of paramoures.

Spenser's Shepheard's Calendar.

I was the chief that raised him to the crown,
And I'll be chief to bring him down again.

Shakspeare.

And as she was going to fetch it, he called to her,
and said, *Bring me, I pray thee, a morsel of bread*
in thy hand. *Kings.*

A registry of lands may furnish easy securities of money, that shall be brought over by strangers.

Temple.

To convey in one's own hand; not to send by another.

And if wished alliance please your king,
Tell him he should not send the peace, but bring.

Dryden.

To produce; to procure, as a cause.

There is nothing will bring you more honour, and more ease, than to do what right in justice you may.

Bacon.

To reduce; to recal.

Bring back gently their wandering minds, by going before them in the train they should pursue, without any rebuke.

Locke.

Nathan's fable had so good an effect, as to bring the man after God's own heart to a right sense of his guilt.

Spectator.

To attract; to draw along.

In distillation, the water ascends difficultly, and brings over with it some part of the oil of vitriol.

Newton's Opticks.

To put into any particular state or circumstances; to make liable to any thing.

Having got the way of reasoning, which that study necessarily brings the mind to, they might be able to transfer it to other parts of knowledge, as they shall have occasion.

Locke.

The question for bringing the king to justice was immediately put, and carried without any opposition that I can find.

Swift's Presbyterian Plea.

To lead by degrees.

A due consideration of the vanities of the world, will naturally bring us to the contempt of it; and the contempt of the world will as certainly bring us home to ourselves.

L'Estrange.

The understanding should be brought to the difficult and knotty parts of knowledge by insensible degrees.

Locke.

To recall; to summons.

But those, and more than I to mind can bring,
Menalcas has not yet forgot to sing.

Dryden.

—————: the gust of springs,
And fall of lofty fountains, and the bend
Of stirring branches, and the bud which brings
The swiftest thought of beauty, here extend,
Mingling, and made by love, unto one mighty end.

Byron's Child Harold.

To induce; to prevail upon.

The nature of the things, contained in those words, would not suffer him to think otherwise, how, or whensoever, he is brought to reflect on them.

Locke.

To bring about. See ABOUT. To bring to pass; to effect.

By Him that made water, fire, erthe, and aire!
The youngest man that is in all this route,
Is besy now to bringen it aboute.

Chaucer's Canterbury Tales.

This turn of mind threw off the oppositions of envy and competition; it enabled him to gain the most vain and impracticable into his designs, and to bring about several great events, for the advantage of the publick.

Addison's Frecholder.

To bring forth. To give birth to; to produce.

The good queen,

For she is good, hath brought you forth a daughter:
Here 'tis; commends it to your blessing.

Shakspeare.

More wonderful

Than that which, by creation, first brought forth
Light out of darkness.

Milton. Paradise Lost.

Bewail thy falsehood, and the pious works
It hath brought forth, to make thee memorable
Among illustrious women, faithful wives.

Id. Samson Agonistes

To bring forth. To bring to light.

The thing that is hid bringeth he forth to light.

Job xxxviii. 11

To bring in. To place in any condition.

He protests he loves you,

And needs no other suitor, but his liking,
To bring you in again.

Shakspeare. Othello.

To bring in. To reduce.

Send over to that realm such a strong power of men, as should perforce bring in all that rebellious rout, and loose people.

Spenser on Ireland.

To bring in. To afford gain.

The sole measure of all his courtesies is, what return they will make him, and what revenue they will bring him in.

South.

Trade brought us in plenty and riches.

Locke.

To bring in. To introduce.

Entertain no long discourse with any; but, if you can, bring in something to season it with religion.

Taylor.

There is but one God, who made heaven and earth, and sea and winds; but the folly and madness of mankind brought in the images of gods.

Stillingfleet.

The fruitfulness of Italy, and the like, are not brought in by force, but naturally rise out of the argument.

Addison.

To bring off. To clear; to procure; to be acquitted; to cause to escape.

I trusted to my head, that has betrayed me, and I found fault with my legs, that would otherwise have brought me off.

L'Estrange.

The best way to avoid this imputation, and to bring off the credit of our understanding, is to be truly religious.

Tillotson.

To bring on. To engage in action.

If there be any that would reign, and take up all the time, let him find means to take them off, and bring others on.

Bacon.

To bring on. To produce as an occasional cause.

The fountains of the great deep being broke open, so as a general destruction and devastation was brought upon the earth, and all things in it. *Burnet's Theory.*

The great question, which in all ages has disturbed mankind, and brought on them those mischiefs.

Locke.

To bring over. To convert; to draw to a new party.

This liberty should be made use of upon few occasions of small importance, and only with a view of bringing over his own side, another time, to something of greater and more publick moment.

Swift's Church of England Man.

To bring out. To exhibit; to show.

If I make not this cheat bring out another, and the shearers prove sheep, let me be unrolled.

Shakspeare. Winter's Tale.

To bring under. To subdue; to repress.

That sharp course which you have set down, for the bringing under of those rebels of Ulster, and preparing a way for their perpetual reformation.

Spenser.

To bring up. To educate; to instruct; to form.

The well bringing up of the people, serves as a most sure bond to hold them.

Sidney.

To bring up. To introduce to general practice.

Several obliging deferences, condescensions, and submissions, with many outward forms and ceremonies, were first of all brought up among the politer part of mankind, who lived in courts and cities.

Spectator.

To bring up. To cause to advance.

Bring up your army; but I think you'll find

They 've not prepared for us.

Shakspeare.

Bring retains, in all its senses, the idea of an agent, or cause, producing a real or metaphorical motion of something towards something; for it is oft said, that he brought his companion out. The meaning is, that he was brought to something that was likewise without.

BRINING or CORN, in husbandry, an operation performed on the wheat seed, to prevent the smut. A liquor is to be prepared for this purpose, by putting seventy gallons of water into a tub (like a mash tub used for brewing), and a corn bushel of unslacked lime-stone. This is to be well stirred till the whole is dissolved and left to stand for thirty hours; after which it is to be drained off into another tub, in the manner practised for beer. In this way about a hogshead of strong lime-water will be obtained, to which must be added three pecks of salt. The wheat must be steeped in this pickle, by running it gently, and in small quantities, into a broad bottomed basket of about twenty-four inches in diameter, and twenty inches deep, and stirring it. The light seed that floats must be strained off with a strainer, and must not be sown. When the basket has been drawn up, and drained of the pickle, the wheat will be fit for sowing in two hours after the brining.

BRINING of HAY-RICKS, a practice common in America, of mixing salt with the hay as it is stacked.

BRINK'. Goth. *bryn*; Swed. *brink*; Teut.

and Dan. *brink*. See BROW and BRIM. The edge of any place, as of a precipice or a river.

And multiplying, evermore—;

Tyl that it be so far ygo

That it at bothe brinkes be.

Chaucer.

The amazed flames stand gathered in a heap,

And from the precipice's brink retire,

Afraid to venture on so large a leap.

Dryden.

We stand therefore on the brinks and confines of those states at the day of doom.

Atterbury.

So have I seen, from Severn's brink,

A flock of geese jump down together;

Swim where the bird of Jove would sink,

And, swimming, never wet a feather.

Swift.

Dreadful post

Of observation!—darker every hour!—

Less dread the day that drove me to the brink

And pointed at eternity below.

Young.

Friend! have a care

Your next step may be fatal!—for the love

Of him that made you, stand not on that brink.

Byron. Manfred.

BRINVILLIERS (Marguerite D' Aubrai, Marchioness of,) was born at Paris in 1651, being the daughter of D'Aubrai, lieutenant-civil of Paris, who married her to N. Gobelin, marquis of Brinvilliers. Possessed of considerable personal attractions, she was for some time much attached to her husband, but at length became madly in love with a Gascon, Goden St. Croix, who had been introduced by the marquis. Her father, informed of the affair, procured the imprisonment of this adventurer in the Bastille, a circumstance which seems to have inspired the marchioness with the most implacable hatred to her whole family. In the Bastille St. Croix learnt, from an Italian, the art of composing the most subtle mortal poisons, and on his release, after a year's confinement, the guilty pair coolly plotted the taking off by this means, her father, sister, and two brothers, all of whom it is said were poisoned by them in 1670. During this time the marchioness visited the hospitals, apparently as a devotee, but as was afterwards strongly suspected, in order to try on the patients the effect of her poisons. The discovery of these criminals was produced in a very extraordinary manner: while at work in distilling poison, St. Croix accidentally dropped a glass mask which he wore to prevent inhaling the deadly vapor, and the consequence was his own instant death. His effects falling into the hands of government, the marchioness had the imprudence to lay claim to a casket, and appeared so anxious to obtain it that the authorities ordered it to be opened, when it was found to be full of packets of poison, with ticketed descriptions of the effects which they would produce. Informed of this discovery the vile woman made her escape to England, and passed thence to Liege, but was there arrested and conducted to Paris. She was now convicted of the murder of her father, sister, and brothers, and condemned to be beheaded and burnt. At this dreadful crisis she evinced extraordinary courage, amounting almost to nonchalance. On entering the chamber in which she was to be put to the torture by swallowing water, she observed three buckets full prepared, and exclaimed, 'It is surely intended to drown me; for it is absurd to suppose one of my dimensions can swallow

all that.' She is said to have listened to her sentence without alarm, and showed no other emotion on her way to execution, than to request that she might be so placed as not to see the officer who apprehended her. This woman was even religious in her way; she confessed regularly, and a form of prayer which she used was found after her death that alluded strongly to her wretched habits. Her husband was supposed to be spared only because of his perfect indifference to her, and her ways. She suffered in July 1676. See *AQUA TOFANA*.

BRIONI ISLES, are three small islands in the Adriatic, near the east coast of Istria, opposite to Pola, in the county of which name they are commonly reckoned. This name more properly belongs to the principal island, the two others being called Coseda and St. Girolamo. All have been long celebrated for their marble quarries, and, with the other islands on the east side of this gulf, belong to Austria: 4 miles west of Pola. Long. 13° 53' E., lat. 45° 3' N.

BRIOUDE, a town of Auvergne, France, in the department of the Upper Loire. About a league to the south lies the smaller town of Vieille Brioude, where there is a singular Roman bridge of one arch, and extraordinary height and length, across the Allier. Brioude was the birth-place of the celebrated La Fayette. It contains 5486 inhabitants. Twenty miles south by east of Issoire, and thirty-nine south-east of Clermont-Ferrand.

BRISACH, or **OLD BRISACH**, a town of Baden, once the capital of the Brisgau. It was twice in possession of the French; but restored to the house of Austria in consequence of treaties of peace. It has been a strong place, but the fortifications are demolished. It is now seated on the east, but, before the river changed its bed, was on the west bank of the Rhine, where there is a bridge of boats; thirty-three miles south of Strasburg. The French took this town in 1795; but were driven from it by a party of Austrians, under Prince Charles, in 1796. A party of the republicans, however, under General St. Cyr, expelled the Austrians and again took possession of it on the 13th Oct. 1796.

BRISACH, New, a town of France, in the department of the upper Rhine, and ci-devant province of Alsace, built by order of Louis XIV. over against Old Brisach, and fortified by Vauban. It is thirty-three miles south of Strasburg, and one from the Rhine.

BRISEIS, or Hippodamia, the wife of Mynes king of Lyrnessa. After Achilles had taken the city, and killed her husband, she became his captive. The hero loved her tenderly; but Agamemnon taking her from him, she became the accidental cause of numberless disorders in the Grecian army. Achilles, enraged, retired to his tent: and, till the death of Patroclus, refused to fight against the Trojans. The resentment of this prince and its consequences are the subject of the Iliad.

BRISGAU, a district of Germany of large extent, and formerly constituting the south-west part of Suabia. It is now almost entirely included in the grand duchy of Baden. Brisgau has been long a peculiar district, subject to its

own laws, and claiming peculiar privileges. Its situation has rendered it the frequent scene of war. In the thirty-years' war, it was in possession of the Grand Duke of Baden, but came successively into the hands of the duke of Saxe Weimar and the French, and was confirmed to the latter power at the peace of Nimeguen, but restored to Austria by that of Ryswick. In 1801 it was assigned, by the peace of Luneville, to the duke of Modena, but was for some time afterwards occupied by the French. A small part, on the left bank of the Rhine, belongs now to Switzerland, and the districts on the north-east to the kingdom of Wirtemberg; the whole of the rest of Brisgau was assigned to Baden in 1806; and in 1810 on the reorganisation of these states was included in the circles of the Wiesen, the Treisam, and the Kinzig. The soil is very various: some parts of the district being very fertile, others on the contrary as sterile, and some parts of the Black Forest seem utterly incapable of improvement.

BRISIACUS Moxs, in ancient geography, a town on the right or east side of the Rhine; situated on a round hill; a fortified town of Suabia; now called Old Brisach.

BRISK, *v. & ad.* } Goth. *roesk*; Teut. *risch*,
BRISK'LY, } *vrysg*; *breisk*; Dan. *frisk*,
BRISK'NESS. } Belgic *fresch*, *brask*; Fr.
brusque; lively; gay; sprightly; vigorous. Powerful; spirituous.

— Why do you frown?

Here dwell no frowns, nor anger; from these gates
Sorrow flies far: see here be all the pleasures
That fancy can beget on youthful thoughts,
When the fresh blood grows lively, and returns
Brisk as the April buds in primrose season.

Milton's Comus.

Some remains of corruption, though they do not
conquer and extinguish, yet will slacken and allay,
the vigour and briskness of the renewed principle.

South.

But the most distinguishing part of his character
seems to me to be his *briskness*, his jollity, and his
good-humour.

Dryden.

Prythee, die, and set me free,

Or else be

Kind and *brisk* and gay, like me.

Denham.

Our nature here is not unlike our wine:

Some sorts, when old, continue *brisk* and fine. *Id.*

Under ground, the rude Riphæan race
Mimick *brisk* cyder, with the brake's produce wild,
Sloes pounded, hips, and servis' harshest juice.

Philips.

It must needs be some exterior cause, and the *brisk*
acting of some objects without me, whose efficacy I
cannot resist.

Locke.

We have seen the air in the bladder suddenly ex-
pand itself so much, and so *briskly*, that it manifestly
lifted up some light bodies that leaned upon it.

Boyle.

I could plainly perceive the creature to suck in
many of the most minute animalcula, that were swim-
ming *briskly* about in the water.

Ray on the Creation.

Why should all honour then be ta'en

From lower parts to load the brain;

When other limbs we plainly see,

Each in his way, as *brisk* as he?

Prin.

First to the lively pipe, his hand addressed,
But soon he saw the *brisk* awakening viol,
Whose sweet entrancing voice he loved the best.

Collins.

BRIS'KET, *n. s.* Fr. *brichet*. The breast of an animal.

See that none of the wool be wanting, that their gums be red, teeth white and even, and the *brisket* skin red.

Mortimer.

BRISSOIDES, in natural history, a genus of the echini marini. The distinguishing characters are, they are of an oval figure, and have their backs striated, not furrowed, and their rays smooth, not marked with ridges. Of this genus there are two known species.

BRISSON (Barnaby), an eminent French lawyer and president of the parliament of Paris, born at Fontenay le Comte about the middle of the sixteenth century. He was much esteemed and honored by Henry III. who boasted of him as the most learned man in Christendom. He employed him in various negociations, particularly as ambassador to England. Being at Paris, when it was besieged by Henry IV. and remonstrating against the treasonable practices of the Leaguers, they fell upon him, dragged him to prison, and strangled him, Nov. 15th, 1591. He wrote, 1. De Verborum Significatione; 2. De Formalis Solemnibus Populi Romani Verbis; 3. De Regio Persarum Principatu; and some other works.

BRISSOT (Peter), one of the ablest physicians of the sixteenth century, was born at Fontenay le Comte in Poitou. He studied at Paris; and having taken his degree of M.D. bent his thoughts to the reforming of physic, by restoring the precepts of Hippocrates and Galen, and exploding the maxims of the Arabians. For this purpose he publicly explained Galen's works instead of those of Avicenna, Rhasis, and Mesue. He afterwards travelled to acquire the knowledge of plants; and going to Portugal practised physic in Evora. His method of bleeding in pleurisies, on the side where the pleurisy existed, raised a kind of civil war among the Portuguese physicians; it was brought to the university of Salamanca, who at last gave judgment, that the opinion ascribed to Brissot was the pure doctrine of Galen. The partisans of Denys, his opponent, appealed, in 1529 to the emperor, to prevent the practice, as being attended with destructive consequences; but Charles III. duke of Savoy happening to die at this time of a pleurisy, after having been bled on the opposite side, the prosecution dropped. He wrote an apology for his practice; but died before it was published, in 1532. Renatus Moreau procured a new edition of it at Paris, in 1622, and annexed to it a treatise, entitled De Missione Sanguinis in Pleuritide, together with the Life of Brissot.

BRISSOT (John Peter), was the son of an inn-keeper at the village of Ouarville, near Chartres. This name of Ouarville, he afterwards anglicised into Warville, and added to his own. His father, who was a man of property, gave him an excellent education, and intended him for the bar; but the young Brissot devoted himself to literature. He was born in 1754. He met with little success in Paris as a literary man, and therefore

went to Geneva, and afterwards to London, where he published a periodical journal, which was not encouraged. Returning to Paris he was patronised by Orleans, and wrote several pamphlets in favor of liberty, which obliged him to fly to America. At the commencement of the revolution he returned, and became the leader of a party which was destroyed by Robespierre; Brissot and twenty-one of the leaders being guillotined in 1793. He was the author of a theory of Criminal Law; Travels in America; and other works.

BRISOTINES, a political party in France, during its revolutionary state, so denominated from Brissot, their chief leader. They were keen republicans, but wished to establish a federal government in France like that of America.

BRISSUS, in natural history, a genus of the echini marini. The characters are, that they are of an oval figure, and have the aperture of the anus on one of the sides of the superficialities; their back is smooth and even, not furrowed; but on the vertex they have several very elegant crenated and dotted lines. Their base is as if cut off on the end nearest the mouth, and is not flat as in the spatangi, but raised in the manner of a cushion.

BRISTLE, *v. & n.* } Goth. *byst, boist*; Bel-
BRIST'LY, } *gie boistel*; Sax. *brustel*.
BRIST'LELIKE. } Hair on the back of swine.
To *bristle* is to rise up, stand up, like quills upon the porcupine.

Be it ounce, or cat, or bear,
Pard, or boar with *bristled* hair,
In thy eye that shall appear,
When thou wak'st, it is thy dear. *Shakspeare.*

New for the bare pickt bone of majesty,
Doth dogged war *bristle* his angry crest,
And snarlth in the gentle eyes of peace. *Id.*

Which makes him plume himself, and *bristle* up
The crest of youth against your dignity. *Id.*

I will not open my lips so wide as a *bristle* may enter. *Id.*

Thou durst not thus disparage glorious arms
Which greatest heroes have in battle worn,

* * * * *

though all thy hairs
Were *bristles* ranged like those that ridge the back
Of chafed wild boars, or ruffled porcupines.

Milton's Sam. Agon.

He is covered with hair, and not, as the boar, with *bristles*, which probably spend more upon the same matter, which, in other creatures, makes the horns; for *bristles* seem to be nothing else but a horn split into a multitude of little ones. *Grew.*

Two boars whom love to battle draws,
With rising *bristles*, and with frothy jaws,
Their adverse breasts with tusks oblique they wound. *Dryden.*

Stood Theodore surprized in deadly fright,
With chattering teeth, and *bristling* hair upright;
Yet armed with inborn worth. *Id.*

Thy hair so *bristles* with unmanly fears,
As fields of corn that rise in bearded ears. *Id.*
Thus mastful beech the *bristly* chestnut bears,
And the wild ash is white with bloomy pears. *Id.*

The leaves of the black mulberry are somewhat *bristly*, which may help to preserve the dew. *Bacon.*

If the eye were so acute as to rival the finest microscope, the sight of our own selves would affright us; the smoothest skin would be beset with rugged scales and bristly hairs.

Bentley.

The careful master of the swine,
Forth hastened he to tend his *bristled* care. *Pope.*

BRISTOL, the *Caer Brito* of the Britons, and *Brightstow* of the Saxons, a city and county of England, stands on an elevated peninsula, formed by the rivers Frome and Avon, partly in Somerset, and partly in Gloucestershire. In regard to wealth, population, and commerce, it is considered the second city of England. Besides the valley between the Frome and the Avon, which contains the old town, St. Michael's hill and King's Down on the north, College Green on the west, and Redcliffe Hill on the south, are covered with handsome public and private buildings, the whole extending over a surface of full 1500 acres of ground, and being about seven miles in circumference. The city contains 600 streets, lanes, squares, courts, &c., with seventeen churches, and thirty chapels or meeting-houses. Two-thirds of it being on the Gloucestershire side of the river; the population of that part only is included in the return, which, was in 1821, 87,779 persons; the Somerset part contains 7979 additional persons. In the old town the streets are close and irregular, and many of the houses built of wood and plaster. Improvements, however, are daily making, many of these streets have been lately widened, particularly towards the river; and the suburbs, and external parts of the city, contain numerous elegant and spacious buildings, constructed entirely of brick and stone. All other materials are now prohibited here by act of parliament. These streets are well paved and attended to; they are supplied with excellent water from pumps and conduits, and lighted with oil gas.

The quay of Bristol, above one mile in length, is one uninterrupted wharf of hewn stone, extending along the inner shores of the Frome and Avon, from St. Giles to Bristol bridge. At flood tides, there is depth of water for the largest vessels to ride close to the walls, and discharge their cargoes; but, before the late improvement of the harbour, they lay a-ground in the mud, at low water, and often received considerable damage.

The bed of the Avon and Frome has now been dammed up as far as the hot wells, and a new channel cut for the river through Redcliffe meads; while the navigation of the Avon in one level has been opened up as high as Keynsham. The harbour is therefore capable of accommodating 1000 vessels, which are not only kept afloat at the quays, but enabled to enter the locks, and go to sea at neap tides. Upon changing the course of the Avon, two cast iron bridges were erected by Mr. Jessop over the new channel. The span of the iron work of each arch is 100 feet, and the rise 12 feet 6 inches, or $\frac{1}{4}$ of the span. Bristol wet docks are very extensive, and the merchant floating dock is said to exceed in dimensions those at Portsmouth or Plymouth. Here is a crane for loading and unloading ships, erected on fourteen pillars of cast iron, and esteemed a very curious piece of workmanship.

These improvements of the harbour are said to have cost £500,000. An act of parliament for further improvements was passed in 1822. The remarkable public buildings are, the cathedral, the church of St. Mary Redcliffe, the exchange, and the theatre. The cathedral is part of the original church of the abbey of St. Augustine, the other part being demolished at the dissolution of the monastery; when Bristol was erected into a bishop's see, and what remained of the church was converted into the cathedral. It is 173 feet long, and 128 broad; having at the west end a large square tower 130 feet high, ornamented with battlements and four pinnacles. The establishment of the cathedral consists of a bishop, a dean, six prebendaries, and other inferior officers. The arch-deacon of Dorset has also a stall in the cathedral. Here are several noble monuments, particularly one to Mrs. Draper the Eliza of Sterne. St. Mary Redcliffe is one of the most beautiful churches in the kingdom. It stands on Redcliffe hill, and is said to have been founded by Simon de Burton in 1292, and finished in 1376. It was built in the form of a cross, with a tower and spire 250 feet high, and richly ornamented with carved work; but in 1445 part of the spire was destroyed, and the church damaged by lightning. The former has never since been rebuilt.

The exchange, in Corn-street, is a handsome structure in the Grecian style, built by Wood of Bath, at the expense of £50,000. It is 110 feet in front, and 148 deep; the place for the merchants is a peristyle of the Corinthian order, ninety feet by eighty, capable of containing 1440 persons. The merchants, feeling the want of an accommodation similar to Lloyd's in London, determined upon building a commercial coffee room, to supply the deficiency. A subscription was accordingly opened, and £14,000 was raised in two days, £25 being the amount of each share. The entrance is under an Ionic portico of four columns, supporting a grand pediment, on which are placed three beautiful colossal statues, representing the city supported by navigation and commerce. Here is a grand room sixty feet long, forty wide, and twenty-five in height.

An elegant and convenient theatre was erected in King-street in 1766, in which the Bath company perform during the summer season, assisted occasionally by the best London performers.

The principal hospitals are, first, Queen Elizabeth's, in which 100 boys are educated, six of whom, when they go out, have £10 each, and the others eight guineas, to bind them apprentices. Second, Colston's hospital, in which 100 boys are maintained for seven years, taught, and then apprenticed. Third, An hospital founded by the same person in 1691, for twelve men and twelve women, with an allowance of 3s. per week, and twenty-four sacks of coals in the year; for this the sum of £25,000 was appropriated. A fourth, partly founded by Mr. Colston, and partly by the merchants, in which eighteen men on account of the merchants, and twelve men and women on Mr. Colston's account, are maintained. Fifth, An infirmary, opened in 1786, for the sick, lame, and distressed citizens, is said to have been the first regular provincial infirmary

in England. It was not long since enlarged at an expense of £10,000. Besides these are a bridewell, and several alms-houses and charity-schools. Here is also a guildhall for the sessions and assizes; a mayor and sheriff's court; a council-house, where the mayor and aldermen meet every day, except Sunday, to administer justice. Under St. John's gate, the corporation have lately erected a noble and spacious arch, for the accommodation of foot passengers.

Considerable woollen manufactories are established here, and fifteen noble glass houses, for which Kingswood and Mendip furnish the coals. Here are also several large sugar-houses, turpentine, sulphur, and vitriol houses, distilleries, and potteries equal to any in the kingdom for the fineness of their ware. The city companies are thirteen, several of whom have elegant halls. That of the Merchants, in Princes-street, is a capacious stone structure, enclosed with an iron pallsade, and has a very curious front. On the north-west of the city is Brandon hill, granted, it is said, to the city by queen Elizabeth, where the laundresses dry their linen; she also gave the city a charter, whereby every man who marries the daughter of a citizen, becomes free of Bristol, and has a vote for the members to parliament. Upon contested elections it is said to be frequently the grand effort of the contending parties to patch up all the matches they can with the lower order of freemens' daughters, by giving a suitable douceur to a subservient bridegroom. The prison of Newgate has been lately enlarged, and rendered very healthy by improvements. It has a handsome chapel, and an officiating ordinary. The government of the city is in a mayor, twelve aldermen, who are justices of the peace ex officio, two sheriffs, twenty-eight common-council, a town-clerk, and deputy town-clerk, chamberlain, vice-chamberlain, under-sheriff, &c. besides a city marshal and other inferior officers. The city is divided into twelve wards, having an alderman to preside over each. The mayor, &c. holds a quarterly session; a court of requests is held every Monday for the recovery of debts under 40s. and the two sheriffs hold a pie-powder-court every year, in autumn, under the piazza, in the old market. Bristol returns two members to parliament.

Close by the river, a mile below the city, is the Hot-well, the waters of which are recommended in diabetes, phthisical, scorbutic, and inflammatory disorders. It is a great resort during the summer, and has a pump-room, ball-room, coffee-house, taverns, and lodging-houses, both below, on a level with the well, and above, in the delightful village of Clifton.

The water is slightly acidulated, inodorous when fresh, perfectly limpid, and sparkling with numerous air bubbles. It is agreeable to the palate without any specific taste. Its specific gravity is 1.00077, approaching so near to that of distilled water, that this circumstance alone would show that it contained but a very small admixture of foreign ingredients. The temperature, taking the average of the most accurate observations, may be reckoned at 74 degrees; and this does not very sensibly vary during winter or summer.

The sensible effects, when drunk warm and fresh from the spring, are a gentle glow of the stomach, succeeded sometimes by a slight and transient degree of headache and giddiness. By a continued use, in most cases it is diuretic, keeps the skin moist and perspirable, and improves the appetite and health. Its effects on the bowels are variable. On the whole, a tendency to costiveness seems to be the more general consequence of a long course of this medicinal spring, and therefore the use of a mild aperient is requisite. These effects, however, are applicable only to invalids, for healthy persons, who taste the water at the fountain, seldom discover any thing in it but a degree of warmth, which distinguishes it from the common element.

Bristol water contains both solid and gaseous matter, and the distinction between the two requires to be attended to, as it is owing to the very small quantity of solid matter that it deserves the character of a fine natural spring; and to an excess in gaseous contents, that it seems to be principally indebted for its medicinal properties. From the different investigations of chemists it appears, that the principal component parts of the Hot-well water, are a large proportion of carbonic acid gas, or fixed air, and a certain portion of magnesia and lime, in various combinations, with the muriatic, vitriolic, and carbonic acids. The high reputation of this spring is chiefly in the cure of pulmonary consumption. From the number of unsuccessful cases among those who frequent this place, many have denied any peculiar efficacy in this spring, superior to that of common water. It is not easy to determine how much may be owing to the favorable situation and mild temperate climate which Bristol enjoys; but it cannot be doubted that the Hot-well water, though by no means a cure for consumption, alleviates some of the most harassing symptoms of this formidable disease. 'It is particularly efficacious,' says Dr. Hooper, 'in moderating the thirst, the dry burning heat of the hands and feet, the partial night sweats, and the symptoms that are peculiarly hectic; and thus, in the earlier stages of phthisis, it may materially contribute to a complete re-establishment of health; and, even in the latter periods, mitigate the disease when the cure is doubtful, if not hopeless.' The season for the Hot-well is generally from May to October; but, as the medicinal properties of the water continue the same throughout the year, the summer months are preferred merely on account of the concomitant benefits of air and exercise. It rises near the bottom of the cliff, above twenty-seven feet below high water-mark, and ten feet above low water, forcibly gushing from an aperture in the solid rock, and so copiously as to discharge sixty gallons in a minute. This water suddenly became red on the 1st of November, 1755, during the time of the dreadful earthquake at Lisbon.

Bristol is a first rate commercial city, and is said to trade with more independence on the port of London than any other British port. Its harbours were filled at a very early period with vessels from Denmark, Prussia, and the Hanseatic towns: many vessels were fitted out at this port for the purpose of discovery; and its merchants

were among the first that entered into the West India trade, and in the cod fishery of Newfoundland. Since canal navigation has been so extensively established, its internal trade has in some measure decreased, as the goods of Liverpool and London now find their way into the country by other channels. Its foreign commerce, however, is in a more flourishing state, the principal branch of which is with the West Indies. Its vessels carry out materials for building, clothing, and provisions; and bring in return the productions of the islands, such as cotton, rum, and sugar, &c. with which they supply all South Wales and the West of England. Large quantities of glass, particularly glass bottles, are exported to Ireland and America, nearly half of them being filled with cyder, beer, or Bristol water. This city has also an extensive trade with the Mediterranean, Africa, and Newfoundland.

All persons are free to trade in this city, and its freedom can be purchased for a very inordinate sum. It gives the title of earl to the family of Hervey. Here the unfortunate Thomas Chatterton was born, his father having been sexton of St. Mary Redcliffe, and in this church lies buried Sir William Penn, the father of the celebrated Quaker.

According to William of Worcester, Bristol was built by Brennus, a prince of the Britons, 380 years before the Christian era, and in allusion to this the two statues over St. John's gate are said to be emblematical of Brennus and Belinus, who reigned conjointly. It is certain that Bristol was a place of importance at an early period: it is mentioned by Gildas among the fortified cities of Britain, as early as A. D. 430; and by Nennius in 620, in his enumeration of the twenty-eight cities of Britain. Robert, the illegitimate son of Henry I., first enclosed it with a wall, and in 1130 rebuilt and improved the castle, which was long considered a place of considerable strength. Excluding the outworks, it was 450 feet in length, and 300 in breadth. In 1655 Oliver Cromwell razed it to the ground, and some few vestiges of it which remain, are now incorporated with other buildings in Castle-street. Here is a considerable weekly cattle-market on Thursday; and the markets on Wednesday and Saturday, for butchers' meat, poultry, fruits, and vegetables, are supplied in great plenty and variety. Fairs, 1st of March in Temple-street, and the 1st of September in St. James's church-yard; each of which continues ten days; for horned cattle, horses, leather, &c.

BRISTOL, a maritime county of the United States, in Massachusetts; bounded on the north by Norfolk, on the south-west by the State of Rhode Island, on the south and south-east by Buzzard's bay, and on the north-east by Plymouth county. It is forty-two miles in length, and thirty-two in breadth; and is divided into fifteen townships, viz. Taunton, Norton, Easton, Mansfield, Attleborough, Swanzy, Somerset, Dighton, Raynham, Berkley, Freetown, Weltpport, Dartmouth, New Bedford, and Rehoboth. This county contains valuable mines of iron ore.

which are worked to a large amount. Copper ore has also been discovered here. The chief town is Taunton.

BRISTOL, a maritime county of the state of Rhode Island, seven miles in length, and three in breadth. It is bounded on the east by Mount Hope, or Bristol-bay, on the west by Warwick-bay, on the north by the state of Massachusetts, and on the south by part of Narraganset bay. It is divided into three townships, viz. Bristol, Warren, and Barrington.

BRISTOL, a post town, and the capital of the preceding county, is situated on the main, twelve miles N. N. E. of Newport. This town was bombarded by captain Wallace, commanding a small British squadron, in October, 1775, and laid under contribution; no lives were lost on the occasion, except the minister of the congregational church, who left his house at the commencement of the bombardment, and perished in the fields. Several of the houses were destroyed; but they have been since rebuilt. It is now flourishing, and carries on a considerable trade. It is four miles south of Warren, fourteen south-east by east of Providence, and 300 from Philadelphia.

BRISTOL, or BRISTOL, NEW, the capital of the county of Bucks, in Pennsylvania, is situated on the Delaware, about twenty miles north of Philadelphia. It is an agreeable handsome place; and the resort of much company in summer. It was incorporated by Sir William Keith, in 1720; and governed by a Burgess and common council men, until the revolution.

BRISTOL BAY, a considerable bay of the North Pacific Ocean, on the west coast of North America, discovered by Captain Cook. It is formed by the peninsula of Alaska on the south, and by Cape Newnham on the north. Long. 157° 0' W., lat. 58° 20' N.

BRISTOL CHANNEL is that arm of the Irish Sea which extends between the southern shore of Wales, and the western peninsula of England, terminating in the mouth of the river Severn. It stretches from east to west, therefore, about ninety miles; from the north-west point of Devonshire to the south shore of Pembroke, it is about fifty miles; and from Somersetshire to Glamorgan-shire, about fifteen miles broad. It is remarkable for its high and often violent tides.

BRISTOL RIVER, a river which empties itself into the above bay. It appeared to Captain Cook to be about a mile broad at its mouth, and abounds with salmon. Long. 201° 55' E., lat. 58° 27' N.

BRISTOL STONES are found in St. Vincent's rock, above the hot well of Bristol: they are six-cornered, and very beautiful and transparent; but they are not so plentiful now as in Camden's days, when he says whole bushels might have been easily gathered.

BRIT', *n. s.* The name of a fish.

The pilchards were wont to pursue the *brit*, upon which they feed, into the havens. *Carew.*

BRIT, a river of England, which runs into the sea, two miles south of Bridport, in the county of Dorset.

BRITAIN.

BRITAIN, or GREAT BRITAIN, as it is now more commonly called, is the largest, and in every respect the most important of the European islands. It extends from about 50° to $58^{\circ}\frac{1}{2}$ of N. lat., and from 2° of E. to 6° of W. long., being about 500 geographical miles in extreme length: its greatest breadth is 320 geographical miles. In British miles we may take the length at 580, and the breadth at 370 miles. It is of very irregular shape: the North Sea washes its northern shore; the German Ocean and English Channel its south and east; and the Irish Sea, St. George's Channel, and the Atlantic Ocean its western sides. The circuit of the island, including its numerous indentations, is estimated at 1800, and the superficial area at 87,000 square miles, containing, in 1821, a population of 14,379,677, or 165 persons to each square mile. Comparatively with the other nations of Europe its population is greater for its surface than any except the Netherlands.

The most ancient name of this island we are told by Pliny was Albion; Agathemerus speaks of the situation of Albin, a British island. Both names (See ALBION) are of uncertain etymology. Some derive Britain from a Brutus or Brito, said to be the fifth in descent from Æneas; Camden from the word brith, signifying painted; others from a British word, brydid, meaning rage, in allusion to the strong shores of the island. But Bochart, speaking of the colonies and language of the Phœnicians, offers a conjecture, which has been most commonly adopted in modern times. The Phœnicians, according to that writer, called this island and some others near it, כרת-ארץ, that is the land or country of tin or lead, and more contractedly Bratannac; which name, passing from the Phœnicians to the Greeks, and from these to the Romans, might have been softened into those of Britannicæ, and Britannia. That the Phœnicians first discovered these islands, which were afterwards by the Greeks called Cassiterides, and are proved by Camden to be our Scilly islands, appears both from Strabo and Pliny; of which the former tells us, that the Phœnicians first brought tin from the Cassiterides, which they sold to the Greeks, but kept the trade to themselves, and the place private; and the latter, that Mediocritus was the first who brought lead from the Cassiterides; where Bochart shows that we ought to read Melichartus, who is the Phœnician Hercules of Sanchoniatho, to whom that nation ascribe their first western discoveries. But, notwithstanding the care of the Phœnicians to conceal these islands, the Greeks at last discovered them, and gave them the name of Cassiterides, which in Greek signifies the same with barat anac in the Phœnician. The name was at first given it in addition to the islands of Scilly, but by degrees communicated to all the others lying in the same sea. Its general appearance to the intelligent traveller is that of great natural variety, and astonishingly minute cultivation. The eastern and southern sides present the greatest extent of

level country; the western and northern are more rugged and mountainous; and, though the whole island contains no mountain more than about 4400 feet above the level of the sea, Wales, the north of England, and many of the northern parts of Scotland, are diversified with scenes of alpine magnificence.

The most important civil division of Britain is into the three countries of England, Wales, and Scotland, occupying, respectively, its southern, western, and northern portions; and each of them subdivided into counties, shires, and parishes. The relative proportions of these countries are, taking England, the seat of the general government, as an unit.

1·00 England

·55 Scotland

·16 Wales.

The primitive rocks of Great Britain are granite, gneiss, or schistose granite, micaceous schistus, and common slate. Scotland affords varieties of primitive limestone, or marble; serpentine appears in Cornwall and at Portsoy, at the extremities of the island; there are extensive beds of syenite in Islay and on the western coasts of Ross-shire; quartz rock composes the central range of the mountains in Islay and Jura, and porphyries of the primitive class are met with occasionally. Granite, the common rock in Cornwall, is occasionally found in some of the interior districts of England, and occupies the central part of some of the Scottish mountains. Gneiss, or schistose granite, is less frequent, but appears on the Grampians and in the Hebrides. Micaceous schistus is the prevailing rock on the sides of the mountains in some of the islands of Scotland, as well as in some of the central parts of the country; and common slate abounds both in England, Scotland, and the whole of the British islands. The secondary formations are all the varieties of sandstone, gypsum, rock-salt, and chalk; the last of which, however, is said to be entirely unknown in Scotland. In England chalk hills commence at Flamborough-head in Yorkshire, and run in a westerly course for the distance of twenty miles; two ridges traverse the middle counties, and approach nearly to the borders of Oxfordshire; and on the south side of the Thames a ridge commences at the North and South Foreland, passes through Kent and Surrey, and terminates in Hampshire; another ridge begins near the lofty promontory of Beachy-head, and passes through Sussex and the south of Hampshire, into Dorsetshire. Britain has been celebrated for the production of tin, as we have seen, from the early dawn of history; lead, iron, and copper, are also abundant; and small quantities of nitric silver have been found in the lead mines; immense fields of coal have been already worked for ages, and seem inexhaustible.

The soil is, in the southern parts, generally clay and strong loams, which sometimes reach to a considerable elevation. Sand is abundant in the more open plains; considerable tracts on the north-eastern shore are occupied with marshes

and fenny ground; while peat, calcareous earth, and rock, divide the upper lands of the country. In the south, midland, and eastern counties is the most productive soil. Above one-third of the whole soil of England and Wales has been supposed to be under tillage; another third to be pasture and meadow; and the remainder marshes, wood, water, or waste land. In Scotland and its islands not above one-fourth of the surface is cultivated. The great mountain ranges are a prominent feature of Britain. In the south is what may be called the Devonian range, extending from the Land's-end through Cornwall, Devonshire, and part of Somersetshire: its greatest height is about 1800 feet above the level of the sea. A ridge of considerable height runs from the sea-coast of Dorsetshire, north-east into Suffolk, with two lateral branches extending from the plain of Salisbury; the one into Sussex, where it forms the South Downs, and the other to the eastern shore of Kent. The Cambrian range traverses Wales from south to north, and contains Plinlimmon, whose altitude is 2463 feet; Cader Idris, in Merionethshire, 2914; and Snowdon, in Caernarvonshire, 3571 feet. A midland range, sometimes styled the Apennines of England, commences in Derbyshire, and terminates at Gelsdale forest in Cumberland, having a branch shooting off on the north of Westmoreland, towards the Irish sea. Of this range in Westmoreland, Wharfedale 2475 feet, Bonyfell 3084, and Ingleborough 2380; in Yorkshire, Crossfell 3390, Bowfell 3440, and Helvellyn 3225; and in Cumberland, Grasmere 2865, Saddleback 3048, Skiddaw 3175, and Scafell 3240, are the principal elevations. Other hills and mountainous tracts of inferior note occur; such as the Chiltern-hills, between Tring in Hertfordshire, and Henley in Oxfordshire; the Malvern-hills in Gloucester, Hereford, and Worcester shires; the Cotswold and Stroudwater hills in Gloucestershire; the Wrekin in Shropshire; the Morelands of Staffordshire, Yorkshire, Lancashire, and Northumberland. The border Cheviot, or Tiviot-hills run in a westerly direction, and form a continuous chain with those in the south-west region of Scotland, many of them are of considerable elevation. In Roxburghshire, Cheviot-top is 2682, and Millenwood-fell 2000 feet; in Dumfriesshire, Hartfell 3300, and Black Larg 2890 feet; and in Kirkcudbrightshire, Cairnsmuir nearly 4000 feet. A long chain, commencing at Dumbarton, stretches in a north-easterly direction to the neighbourhood of Brechin, and is broken by the Forth and the Tay into three divisions, denominated the Lennox, the Ochil, and the Sidlaw-hills. The Grampian range, including the Mons Grampius of Tacitus, extends from Loch-Lomond, in Dumbartonshire, to Stonehaven, in the county of Mearns, having a branch shooting off from it into the shires of Inverness and Banff. In this chain Ben-Lomond rises to the height of 3260 feet; Ben-Ledi 3009; Ben-More 3903; Ben-Lawers 4015; Ben-Voirlich 3300; Bengloe 3725; Sheehallien 3564; Loch-na-garaidh, and Binn-na-muichduidh, constantly covered with snow, are not less than 4000 feet high. Some of the other most remarkable mountains of Scotland are Ben-

Cruachan, in Argyllshire, 3390 feet; Ben Wyves, in Rossshire, 3720 feet in height, and Ben-Nevis, in Invernesshire, the loftiest mountain in Great Britain, 4370 feet.

The climate of Great Britain, though remarkably changeable, is, in that circumstance, as well as some others, a common feature of the island. Its instability has been attributed to the manner in which its circumjacent seas affect the dry winds rushing from the continent, as the various winds of the ocean, its tides, &c. may occur. The larger mountain ranges, running from north to south, also affect the eastern and western sides of the island in a particular way. The latter being generally more humid and mild; the former drier, but of lower temperature. From the east dense fogs and penetrating winds prevail at particular seasons; but the most prevalent winds throughout the island are from the west. In London the wind blows from that quarter, on an average, during the year, 215 days, and 116 from the east; from the south 18, and from the north 16 days. The extremes of heat and cold, experienced in parallel latitudes of Asia and America, are of rare occurrence here, and always of short duration; a happy mediocrity, to be attributed not merely to the natural position, but to the complete cultivation of the country. July and August are, on an average, its warmest, and December and January its coldest months of the year.

Its rivers and canals are important general features of Great Britain. The most remarkable of the former are, in England, the Thames, Severn, Humber, Mersey, Trent, and Ouse. In Scotland, the Forth, Clyde, Tay, Tweed, Don, and Dee. To particularise its canals would exceed the bounds of a general sketch; they have been the work, we can only observe, of but little more than half a century; the first that were constructed on any considerable scale being those of the duke of Bridgewater, planned in 1757: they now connect all the great towns and rivers of the empire, particularly in England; here, passing over the valley in tiers of arches, there penetrating mountains and rocks, by tunnels that want a name in relation to the earth, for subterranean they are not in many cases; and in other instances climbing the outside of hills in inclined planes, raised by mechanical power. See CANAL NAVIGATION.

Great Britain is by nature pointed out as the head of those islands and dependencies which form her European empire—and England as the head of Great Britain. Here, therefore, has long been the seat of government; and its metropolis is the grand emporium of the internal and external commerce, as well as of the arts and literature, of the country. On a statistical view of Europe, Great Britain ranks but as the seventh power in superficial extent of country. Russia, Sweden (including Norway), Austria, France, Turkey, and Spain, being all her superiors in that respect. According to population she ranks as the fourth power, Russia, France and Austria being her only superiors. In respect to public revenue she ranks as the first of the powers, as well, of course, as in the contributive proportion of each individual to the

burdens of the state. In this last particular every individual contributes nearly double the sum, upon an average, that the inhabitants of any other nation does—more than five times as much as the Swede, the Italian, and Turk, and about ten times as much as the inhabitants of Switzerland.

More particular statistics of this most interesting of all islands, we presume, to the reader, belong, as we conceive, to the respective countries of which it is composed. To the articles ENGLAND, SCOTLAND, and WALES, therefore, we refer for them. Ireland also, though now united under one sovereignty, and represented in one parliament, is still to be regarded as a distinct country, having, as well as the other great divisions of the empire, many geographical and civil peculiarities. See IRELAND.

The civil and ecclesiastical history of this empire, we regard as divisible into two comprehensive periods, the history of Britain, and of Great Britain. The former comprehending that of the early Britons, and the general affairs of the island, until the settlement of its Saxon conquerors here under Egbert. Then the histories of England, England and Wales, and Scotland, as well as Ireland, are distinct; and we shall treat of them distinctly in their alphabetical places, until the union of the English and Scottish crowns under James I. Now begins the history of Great Britain, and from this period it will also be convenient to treat the entire general history of the empire, under that head to the present time. This article, therefore, is devoted to the first of these periods.

HISTORY OF BRITAIN. 1. Of the early Britons, or Britain before the Roman invasion.—All history has its infancy of fables; wholly to disregard which, is, perhaps, as unphilosophical as to slight every account of the infancy of celebrated men, because such accounts also frequently abound in the marvellous. Milton traces, in the romantic details of British history, ‘many footsteps and reliques of something here;’ and Mr. Turner, one of our ablest modern historians, insists that sufficient attention has not been paid to them by his predecessors. Hume, we know, contends that they ought entirely to be disregarded. We shall advert to a few of the most interesting particulars, and leave the question of their credibility to the reader.

The Argonautica of the Greeks, ascribed to their celebrated Orpheus, contains the earliest historical allusion to these islands. Who the real writer of this poem was, is a question equally obscure with the geographical details into which he enters; but Suidas contends that he was an Orpheus the younger, called also Onomacritus, who lived 560 years before Christ. He describes a voyage undertaken by certain Thessalian heroes to Colchis, on the east of the Euxine, whence they pass to the Palus Mœtis, or sea of Azoph, thence up the lands to the Northern Ocean; and, circumnavigating Europe, return home.

He mentions the island Iernida, which is presumed to be Ireland, and which the Argonauts pass with considerable fear in their voyage from the North Sea. Camden thinks that the island

next mentioned under the name of Πευκησσαν’ or Piceis Obsitam, was Britain, which some writers contend cannot be the fact, because, after they had left Iernida, they were tossed by a furious tempest for twelve days before Lynceus discerned Πευκησσαν. We do not see the force of this objection. It is perhaps extraordinary, but not impossible, that they should have touched on the shores of Ireland first; but by no means impossible that they should have been tossed about in the Irish or British Channels twelve days. It is remarkable, that, in opposition to the mythologists, the author makes this island in the Atlantic to have been the residence of Ceres, and the place from which Proserpine was carried off by Pluto. With equal peculiarity he makes another island in the same sea, which he calls λυκαιον χερσον; and which Camden thought to be the same as the former, though three days sail from the habitation of Circe.

Herodotus, who flourished about 450 years before Christ, says, ‘I have nothing certain to relate concerning the western boundaries of Europe. I know as little of the islands called Cassiterides, except from the tin which is thence imported among us; and though I have diligently enquired, yet have I never seen any man, who, by his own experience, could inform me of the nature of that sea which bounds the extremities of Europe; however, it is certain that amber and tin come from its remotest parts. Europe,’ he adds, ‘has not been fully discovered by any man; and we have no account whether it be bounded on the north and east side by the sea.’

The first classical writer who expressly mentions the British isles, is the author of De Mundo, a work that has been ascribed to Aristotle. He professes to give a kind of physiological account of the universe, and a concise survey of the geography of the earth. If it was written by Aristotle, which the Scaligers and other learned men dispute, it will show how confined was the geographical knowledge of that age: if of later date, it will prove how slowly that knowledge advanced. This writer speaks of a sea, that comes towards the Gallic Gulf, and thence to the columns of Hercules. ‘In this sea,’ he says, ‘are two islands, called Βρετανικαι, Αλβιον και Ιέρη (Britannia, Albion, and Ierne), larger than those we named above. They are directly above the Celts.’ He further describes the northern parts of Europe as inhabited by the Scythians, and the western by the Celts.

Polybius, who flourished about 200 years before Christ, promises in his third book to write a treatise respecting the βρετανικων νησων, the British islands, and the making of tin; but this tract unfortunately, if ever written, is lost. Strabo, and other Greek writers, now constantly mention these islands; and there can be no doubt that they are intended by the Cassiterides of the classical authors. The Phœnicians, according to Strabo, were long accustomed to visit the Cassiterides from Spain, for the sake of a profitable traffic in tin, lead, and skins. So jealous were they, we are told, of that monopoly of this commerce which they at one time enjoyed, that when the Romans followed a Phœnician ship bound hither, for the purpose of dis-

covering the market, the master ran the vessel aground, and destroyed it, rather than let them trace his course; and he was indemnified by his countrymen out of the public treasury. Through this channel, however, the Greeks generally, and finally the Romans, became well acquainted with the existence of Britain, and what was its then staple commodity—tin. The period of the Roman invasion of the island, under Julius Cæsar, unites it with the regular stream of ancient history.

As Britons, however, we may be permitted to confess a lingering over its earliest details. Much of them, as already admitted, is doubtless fabulous; but industry and erudition have, of late, elucidated many of the once rejected legends: ancient British learning has been cultivated with patriotic zeal, ancient documents have been brought to light; what is probable has been separated from what is hopelessly obscure; and having given, as above, the bald story of our early history that has come down to us through the Greek and Roman writers, we shall now for a brief space engage the reader's attention to those contributions of our native historians, that supply, as we presume, an equally authentic, and much more interesting narrative.

In the Welsh Triads, which have been recently published, we have a test of the accuracy of Geoffry of Monmouth's Chronicle, the only source of information, on early British history, to which the investigator could at one time apply. These write the word Britain, Prydyn or Prydain, a name which they state it to have derived from Prydyn, the son of Aedd, who 'brought it under rule.' The Cymry, or Cimbri, are said to have been the first people who came over; the Brython, Britons, or Britones, were the next considerable colony. Geoffry of Monmouth appears only to have translated the old Welsh Chronicle into Latin, with some embellishments. His name, among the Welsh, is Griffith ap Arthur; but there is evidence, certainly, that the main incidents contained in his book, have a foundation in truth. Two copies of this Chronicle, in Welsh, have been lately published from respectable manuscripts, collated with two more, by Mr. Owen; which purport to be transcripts of the work as edited by Walter de Mapes, archdeacon of Oxford, in the reign of Henry I. The ground-work of the narratives thus supplied is the same, and especially as it regards the origin of the British; which is in them all attributed to one Brutus, a Trojan, and his companions. Brutus is said to be the son of Silvius, the son of Ascanius, the son of Æneas. These Trojans, after meeting with many reverses, and having passed through various scenes of adventure in Greece, Italy, and Gaul, which are very circumstantially related, at length found their way to Britain; about the time that Samuel the prophet governed Israel.

Geoffry peoples the island at this time with giants: some original inhabitants there probably were; but for whom, or what they were, as well as for the Trojan origin of this Brutus, we have only the authority of Geoffry's imagination. It is remarkable, however, that, according to Ammianus Marcellinus, some of the Gauls had a

tradition that they were descendants of the Trojans, which he thus relates: 'Aiunt quidam, paucos, post excidium Trojæ, fugitantes Græcos undique dispersos, loca hæc occupasse tunc vacua.'—It is said, that a few (*Trojans*), after the destruction of Troy, in making their escape from those Greeks who were dispersed abroad, took possession of these countries, which at that time were uninhabited.' Nennius says, that Brutus built a city in Gaul, which he called after the name of Turnus, one of his soldiers. Mr. Roberts, *Early History of the Cymry*, p. 57, thus comments on this circumstance. 'There can scarcely be a doubt but that Nennius had here the district of the Turones, that is, Touraine, in view. Now, Touraine comprehends the confluence of the Liger, or Loire, from the vicinity whereof the colony of the Loegrians came to Britain. This tradition may, therefore, be safely considered as that of the Loegrians in particular; though, in process of time, and from the ignorance of historians, who confounded it with the other, a confusion to which the similarity of the names, Ilysichion and Prydain, to Ascanius and Brutus (if any such persons as the two last ever existed) would contribute, it came to be considered as the national tradition. The Loegrians then, having a tradition that they came originally from Phrygia, and the Cymry, that they came from Thrace: the expression of the Triad, *that both were of the same original stock*, was countenanced by the traditions of both.'

The Triads speak of three colonies, as coming over from the continent in some remote age: 'The first is the Cymry, or Cymbrians; these came over the German Ocean, which they call Môr Tawch, or the hazy ocean, from the land of Hâv, or Defrobani, 'where Constantinople now stands;' a remark, probably, of some ancient copyist. These came under the command of Hu Gadarn, who is styled the pillar of his nation, for it was he who conducted the Cymry to Britain. It is said of him, that he aimed not at obtaining territory by war and contention, but in the way of equity and peace. The Cymry are styled one of the three benevolent tribes, of which the second was; 'The Lloegrwys, the Loegrians, or Liguerois, who came from the land of Gwasgwyn, and were sprung from the primordial race of the Cymry. The third was 'The Brython, or Britons, who came from the land of Llydaw (Letavia, Armorica, or Bas Bretagne), and were also sprung from the primordial race of the Cymry. These were denominated the three peaceable tribes, inasmuch as they came by mutual consent and permission; and the three were of one language and of one speech.'

'Three tribes came under protection to the isle of Britain; they settled, with the leave and by permission of the Cymry, without weapon or assault: the first, was the tribe of the Celyddon, or the Caledonians, in the north; the second, was that of the Gwydhyf, or Gwydhelians, and these are now in Alban; that is, in the highlands of Scotland: the third, was that of the men of Galedin, who came in their boats (*llongau moe-lion*, or ships without sails), to the Isle of Wight,

when their country was overflowed, and were allowed a territory by the race of the Cymry: these had no privilege nor claim in the Isle of Britain, any more than a settlement in the land, afforded them under limitations; and these could not be entitled to the rights of natives until the ninth generation.

Three usurping tribes came into the Isle of Britain, and never departed out of it. The first of these was that of the Coraniaid, who came from the land of the Pwyl (or Poland, according to the etymology of the word, and according to the application of it to denote that country, by the modern Welsh): the second was the Gwyddelid Fichti, who came into Alban, over the sea of Llychlyn, or Lochlyn: the third was that of the Saxons. It is further stated in this Triad, that the territory which the Coraniaid occupied was on the banks of the Humber, and on the shores of the German Ocean; and the Gwyddelid Fichti are in Alban, on the shore of the sea of Lochlyn. The Coraniaid, on the coming over of the Saxons, united with them, and, incorporating themselves with that people, they deprived the Loegrians of their government, by wrong and oppression; and then they deprived the race of the Cymry of the monarchical crown. All the Loegrians became one people with the Saxons; those only excepted who are found in Cornwall, and in the Comot of Carnoban, in Deira and Bernicia. It is further added, that the nation of the Cymry kept their country and their language, although they lost the sovereignty of the Isle of Britain; owing to the treachery of the protected, and the devastation of the three oppressive tribes. From another Triad it appears, that until the time of Prydyn, the son of Aedd, there were no settled laws for the maintenance of justice, and the defence of person and property; nor any regular mode of government.

The coming over of the three friendly tribes, Mr. Hughes (*Horæ Britannicæ*) fixes at about 400 years, B. C.; 'for, by the time of Cæsar, not only Kent and Sussex, but Hants, Dorset, Wilts, Somerset, Devon, and Cornwall, were occupied by their descendants, and bore their names.'

There is great reason to suppose that the Phœnicians not only traded as we have seen to Britain, for tin, &c. but established a colony here at a remote period: they are probably included in some of the tribes already detailed. Certain it is that the date of the voyage of Hamilco, who was sent by the senate of Carthage, about the time of Darius Nothus, to discover the western shores and parts of Europe, agrees almost precisely with the date of the coming over of the friendly tribes above alluded to. Dr. Vincent, in his *Treatise on the Commerce and Navigation of the Ancients in the Indian Ocean*, says 'that tin is mentioned as an import into Africa, Arabia, Scindi, and the coast of Malabar. It has continued an article of commerce brought out of Britain in all ages; conveyed to all the countries in the Mediterranean by the Phœnicians, Greeks, and Romans, and carried into the eastern ocean from the origin of commerce. Tin,' he continues, 'is enumerated by Arrian as exported to India, and if we find the produce of Britain conveyed to

Malabar in the earliest period that history can reach, we find the spices of Malabar in Britain in an age when the course of the commerce with India was probably as little known as the existence of America: the venerable Bede, who died in the year 735, was possessed of pepper, cinnamon, and frankincense. Did no one ever ask the question how, in that age, these luxuries had been conveyed to Britain, or were treasured in a cell at Wearmouth?'

The Phœnicians, in fact, traded to all parts of the known world, perhaps from the time of Abraham. 'They enriched themselves by exchanging their manufactures, and the productions of the East, for the silver of Spain and the tin of Britain. Spain was, to them, what America has been to us; but Britain was so invaluable to their trade that they uniformly endeavoured to throw a veil of mystery over its situation and its produce.' At every station they visited on the Mediterranean these enterprising navigators established colonies: Strabo mentions their possessing not less than 300 on the shores of that sea. It cannot therefore be unreasonable to infer 'that they established similar settlements in more distant countries, and particularly in Britain, where, for such a length of time, they possessed the monopoly of an article which enriched them, and was so much required by other nations.'

When Cæsar arrived in Britain he describes the sea-coast as inhabited by rovers and pirates, the interior, to which he did not penetrate, by the aborigines of the island, whose numbers he heard of as prodigious; and their buildings numerous, and like those of Gaul. Their cattle also were abundant, but they sowed little corn, and used iron rings for money. Their diet was simple and parsimonious; chiefly milk, butter, and cheese, and perhaps oatmeal. At their feasts they indulged themselves with animal food, cerevisia, or malt liquor, cyder, and metheglin. They had few fixed meals, but ate more or less frequently, according to their convenience; and when they became rather more polished, two meals a day formed their seasons of repast. When Cæsar met them in battle, their appearance was fierce, and their courage undaunted. They painted, or rather tattooed their bodies with wood, partly as a defence against the weather, and partly to terrify their enemies. Dion Cassius says, when pursued by an enemy too powerful, they betook themselves to boggy places, where they were able to endure all the inconvenience of such a miserable situation for whole days and nights, without any other sustenance than a morsel no bigger than a bean. At this period their hills were covered with deer, so that their venison feasts were frequent, rewarding them for the toil of hunting: wolves and bears also abounded in the island. Their towns consisted of huts, with one rather of the superior kind for the chieftain. Their fortresses were rather natural than artificial defences; but we have still the traces of their encampments, which antiquaries distinguish from those of the Romans. Some of our largest towns are upon the site of those built by the ancient Britons. Their garments

were coarse woollen, and their covering by day was their only bedding at night. Their distinguished chiefs wore a gold torch, or massy chain, appended to a collar. Queen Boadicea is described by the Roman historian as adorned with such a princely ornament; while her yellow hair fell down her back over her long flowing robe. Cæsar found them prone to civil wars and disputes: his pretext for his second invasion we know was grounded on the encroachment made by Cassivelaunus, prince of the Catti, and some other tribes, on the neighbouring territory of the Trinobantes, whose prince, Immanuentius, had been slain by that chieftain. He also states that 'ten or twelve of them have their wives in common; particularly brothers with brothers, and parents with their children. The children who were the fruit of such unlawful embraces, were considered as pertaining to those men who married the mothers when virgins.' They imported brass, it seems from the same writer, and exhibited their greatest mechanical skill in the structure of their war-chariots, to which they fastened those celebrated scythes and hooks which evince a considerable knowledge of the art of working iron. 'The chief mechanics of Britain,' say one of the Triads, 'were Corvinôr, the bard of Ceri Hir Lyngwyn, who first made a ship, sail, and helm, for the Cymry; Morddall Gwr Gweigl, mason to Ceraint ap Greidiawl, who first taught the Britons to work with stone and mortar, about the time that the emperor Alexander was subduing the world; Coel, son of Cyllin, and grandson of Caradoc, the son of Brân (or Caractacus), who first made a mill turned by a wheel: these three were hard.' Another speaks of barley and wheat as introduced by foreigners; and first of all successfully cultivated, the former in Pembrokeshire, and the latter in Monmouthshire. Rye, at the same time, was introduced into Carnarvonshire. In their books also we read of 'three celebrated astronomers of the Isle of Britain, Idris the chieftain, and Gwydion the son of Don, and Gwyn the son of Nudd; and so great was their knowledge of the stars, and their influences, that they could prognosticate whatever it was desirable to know.

Ancient commentators on the Itinerary of Richard of Cirencester attempt to distinguish some ancient British ways across the island from the roads constructed by the Romans, and it is considered that both the Skinner-street and the Watling-street of the latter were adopted and improved from the former. The Triads tell us that the nation of the Cymry claimed the supreme monarchy of the Isle of Britain: but of this prerogative they are said to have been deprived by the Loegrians, or the people of the central region, now called England. In a time of common danger the chieftains, who were the reguli, or lords of distinct territories, formed a confederacy, and elected some eminent chieftain of an illustrious family to be their pendragon, or stadtholder, to lead them to battle. Such were Cassivelaunus, Caractacus, Vortigern, and Arthur. These works also mention laws enacted by the general suffrage of what were afterwards called uchelwyr, or noblemen; and the gwyrd, men

of small estate, or such as we would call freeholders; the common people, or the plebeians, being in a state of villenage, or slavery to the great men. Nothing can be more satisfactory to the patriotic antiquarian than the following passage on the genius of their constitution. 'There is one supreme authority, in union with the arbitration or voice of the country and community, agreeable to the distribution of Prydain, the son of Aedd the Great. To the nation of the Cymry does the supreme authority pertain, according to the voice of the country and the nation, because of natural right and equity; and subject to this constitution ought the sovereignty to be regulated in every territory of Britain; and every sovereignty is subject to the voice of the country: on that ground is the proverb founded, 'The country is greater than its lord.' Another Triad says, 'The three pillars of the commonweal of the Isle of Britain; the voice (or decision) of the country, the sovereignty, and the law, according to the distribution of Prydain, the son of Aedd the Great.' They also celebrate the laws of Dunwal Moelmad, which were extant in the time of Gildas (that is, Gildas Nennius), were translated by him into Latin; as were also those of Marcia, the wife of Cyhylin, the third from Dyrnwal; and communicated to Alfred the Great by Aser. Their language, it is well known, had a close affinity with that still spoken in Wales. Their druidical magistracy and priesthood are sufficiently important to claim our attention in a separate article. See DRUIDS.

The independent states or tribes, at the coming of the Romans, were about forty-five, whose names, somewhat altered by a foreign orthography, were as follow:—

Cantii	Belgæ
Regni	Durotriges
Bibroces	Ilædii
Attrebates	Damnonii
Segontiaci	Carnabii
Silures	Ordovices
Dimetæ	
Trinovantes	Dobuni
Iceni	Huicci
Coritani	Analites
Cassii	Carnabii
Sistuntii	Brigantes
Volantii	
Ottadini	Novantes
Gadeni	Damni
Selgovæ	
Horestii	Vacomagi
Veturones	Albani
Taixali	Attacotti
Caledoni	Mertæ
Cantæ	Carnonacæ
Logi	Cerones
Cornavii	Creones
Catini	Epidii

The principal of which were thus distributed:

Tribes.

1. Damnonii . . . Cornwall and Devonshire.
2. Durotriges . . . Dorsetshire.
3. Belgæ . . . Somersetshire, Wiltshire, and the northern part of Hampshire.
4. Atrebates . . . Berkshire.
5. Regni . . . Surry, Sussex, and the south of Hampshire.
6. Cantii . . . Kent.
7. Trinovantes . . . Middlesex and Essex.
8. Iceni . . . Suffolk, Norfolk, Cambridgeshire, and Huntingdonshire.
9. The Catti, or Catticuchlani } Bedfordshire, Buckinghamshire, and Hertfordshire.
10. Dobuni . . . Oxfordshire and Gloucestershire.
11. Silures . . . { Herefordshire, Radnorshire, Monmouthshire, Brecknockshire, and Glamorganshire.
12. Dimetæ . . . Caermarthenshire, Pembrokehire, and Cardiganshire.
13. Ordovices . . . { Flintshire, Denbighshire, Merionethshire, Montgomeryshire, Caernarvonshire, and the Isle of Anglesea.
14. Cornavii . . . Cheshire, Shropshire, Staffordshire, Warwickshire, and Worcestershire.
15. Coritani . . . { Lincolnshire, Nottinghamshire, Derbyshire, Leicestershire, Rutlandshire, and Northamptonshire.
16. Brigantes . . . Yorkshire, Lancashire, Westmoreland, Cumberland, and Durham.
17. Otadini . . . Northumberland.

Modern Counties.

Mr. Hughes supplies us with a list of the principal towns in ancient Britain; several of which were founded before the coming over of the Romans.

Trenovant—Londinium, Llandain, Llundain, or London.

Durovernum vel Cantiiopolis—Caer Gaint, or Canterbury.

Camulodunum—Colchester, or Maldon.

Verolanium—St. Alban's.

Venta—(Belgarum), Caer Wynt, Winchester.

Isca—(Damnoniorum), Caer Esk, Exeter.

Isca—(Silurum), Caerleon, Monmouthshire.

Venta—(Silurum), Caerwent.

Glevum—Caer Gloyw, Gloucester.

Brannogenium—Caer Wrangon, Worcester.

Uriconium—Wroxeter, in Shropshire.

Deva—Caerleon Gawr, Chester.

Corinium—Caer Ceri, or Cirencester.

Durnomagus—Caster, near Peterborough.

Cataracton—or Catterick, Yorkshire.

Victoria—Perth.

Theodosia—Caer Alcluyd, or Dunbritton.

Isurium—Aldborough, Yorkshire.

Eboracum—Caer Evroc, or York.

Coccium—Blackrode.

Luguballium—Caerlisle.

Cambodunum—Slack, Lancashire.

Segontium—Caer Segont, near Caernarvon.

Conovium—Caer Ilên, near Conway.

Mediolanum—Meivod, Montgomeryshire.

Lindum—Caer Luyt Coed, or Lincoln.

Ragæ—Caer Leir, or Leircester.

Rutupis—Richborough.

Sorbidunum—Caer Sallog, or Salisbury.

Aquæ Solis—Caer Baddon, or Bath.

Avalonia—Wells, or Glastonbury.

Muridunum—Caerfurdhin, or Caermartnen.

Mcnapia—Mynyw, St. David's.

To which we may add :—

Regentium—Chichester.

Calleva—Silchester.

Gobanium—Abergavenny.

Etocetum—Wall, near Litchfield.

Mancunium—Manchester.

Rerigonium, or Rigodunum.—Ribchester.

Lucophibia, or Candida Casa—Whithern, in Galloway.

Vanduarium—Renfrew, or Paisley.

Devana—Old Aberdeen.

We now come to treat

II. *Of Britain as a Roman province.*

Julius Cæsar having subdued most of the nations of Gaul, on the opposite side of the channel, began, about B. C. 56, to think of extending his conquests by the reduction of Britain. The motive for this expedition, ascribed to him by Suetonius, was a desire of enriching himself by the British pearls, which were then much esteemed. The pretence, however, to justify his invasion, was, that the Britons had sent assistance to the Gauls during his wars with them. His first expedition was undertaken at the close of the summer (he landed August 26th), and he now therefore only purposed to view the island, and learn something of the manners and customs of the natives; after which, on his return, he could more easily ensure a permanent conquest. Having marched all his forces into the country of the Morini (Picardy), in Gaul, from whence was the shortest passage into Britain; he ordered the vessels that lay in the neighbouring ports, and a fleet which he had built the year before, to attend him. The Britons, alarmed at his preparations, sent ambassadors with offers of submission; but Cæsar, though he received them with great kindness, did not abandon his intended scheme. He only waited till the return of C. Volusenus, whom he had sent out with a single galley to make discoveries on the coast. His force consisted of two legions embarked on board eighty transports; and he appointed eighteen more, which lay wind-bound about eight miles off, to convey over the cavalry; but these last orders were too slowly executed, which occasioned some difficulty in his landing. The British chiefs at this time, although they had endeavoured to conciliate, were far from prepared to submit to him. As soon as they perceived Cæsar's fleet approaching, a number of cavalry and chariots were despatched to oppose his landing, while a considerable body of infantry hastened after. The Romans were chiefly, how-

ever, embarrassed in their attempt to land, by the largeness of their ships; and the soldiers were obliged to leap into the sea while loaded with armour; while at the same time they had to encounter the enemy, who were quite disengaged. Cæsar perceiving this, and in order to drive the Britons from the water side with their slings and arrows, ordered his galleys to advance, with their broadsides towards the shore. On this, the Britons, surprised by a sort of shipping they had never before seen, began to give ground. The battle, however, continued for some time, greatly to the disadvantage of the Romans; till at last Cæsar, observing the distress of his men, caused several of his boats to be manned, and sent them to the assistance of those who were most exposed. The Romans now soon overcame the undisciplined native force, and made good their landing; but were unable to pursue the enemy for want of cavalry. The Britons, on the other hand, were so disheartened with their bad success, that they immediately sent ambassadors to sue for peace. This was granted, on condition of their delivering a certain number of hostages for their fidelity. Part of these they brought immediately; and promised to return in a few days with the rest, who they said, lived at some distance. But, in the mean time, the eighteen transports which carried Cæsar's cavalry, being driven back by a storm, and the fleet greatly damaged, the Britons broke their engagement, and fell unexpectedly on the seventh legion, while busied in foraging. Cæsar hastened to their assistance with two cohorts, and at last repulsed the enemy. This, however, proved only a temporary deliverance; for the Britons, thinking it would be possible to cut off all the Romans at once, drew together a great body of horse and foot, which boldly advanced to the Roman entrenchments. Cæsar came out to meet them; and the Britons were once more put to flight with great slaughter. Having burned several towns and villages, the victors returned to their camp, where they were soon followed by deputies from the natives, to whom the Roman commander, being in want of horse, and afraid lest another storm should destroy the remainder of his fleet, granted peace; on condition of their sending him into Gaul, double the number of hostages which they had before promised. The same night he set sail, and soon arrived safe in Gaul.

No sooner did the Britons perceive the Romans depart, than they again determined to slight all their engagements. Of all the states who had promised to send hostages, only two performed their promises; and this neglect so provoked Cæsar, that he determined to return the year following with a far greater force. Having, therefore, caused his old vessels to be refitted, and several new ones to be built, he arrived off the coast of Britain with a fleet of 600 ships and twenty-eight galleys. The Britons made no opposition to his landing; but Cæsar, getting intelligence that an army was assembled at no great distance, marched in quest of them. He found them encamped on the banks of a river, supposed to be the Stour, twelve miles from the place where he had landed. They attempted to

oppose his passage; but, being briskly attacked by the Roman cavalry, were obliged to retire into a wood, all the avenues of which were blocked up by trees cut down for that purpose. This fortification, however, proved insufficient to protect them. The seventh legion having cast themselves into a *testudo*, and thrown up a mound against their work, drove them from their asylum; but, as the day was far spent, a pursuit was not thought advisable. Next morning Cæsar, with the greatest part of his army, which he divided into three bodies, marched out in quest of the enemy. But when he was within sight of their rear, he was informed, that his fleet had been greatly damaged by a storm. This put an end to the pursuit for that time; but Cæsar having employed all the shipwrights he had with him, and sent for others from Gaul, to repair the damage, resolved to prevent misfortunes of this kind for the future. He therefore drew all his ships ashore, and enclosed them within the fortifications of his camp. This arduous undertaking employed the army for ten days; after which he again set out in quest of the enemy. The Britons had made the best use they could of the respite afforded them by the storm. They were headed by Cassibelan, king of the Trinobantes. He had formerly made war upon his neighbours; and, having rendered himself terrible to them, was esteemed the most proper person for leading them against the common enemy; and, as several states had now joined their forces, the British army was numerous. Their cavalry and chariots attacked the Romans on their march; but were repulsed with loss, and driven into the woods. The Romans pursued them too eagerly, and thus lost some of their own men; which encouraged the Britons to make another fierce attack; but in this also they were finally unsuccessful, and obliged to retire. Next day the Britons suddenly attacked the Roman legions as they were foraging; but, meeting with a vigorous resistance, they soon betook themselves to flight. The Romans pursued them so closely, that, having neither time to rally nor get down from their chariots, great numbers of them were cut in pieces: and this overthrow had such an effect upon the auxiliaries of Cassibelan, that they all abandoned him; nor did the Britons ever after engage Cæsar with united forces. The Roman general pursuing his victory, marched towards the Thames, with a design to enter the territories of the Trinobantes. The river was fordable only at one place, but when he came to it, he found the enemy's forces drawn up in a considerable body on the opposite bank, which was fortified with sharp stakes. They had likewise driven many stakes of the same kind into the bottom of the river, the tops of which were covered with water. Cæsar was not dismayed at these difficulties, which he learnt from prisoners and deserters. He ordered the cavalry to enter first, and the foot to follow. The soldiers advanced with such resolution, that though the infantry were up to their chin in water, the enemy abandoned the bank and fled. After this defeat, Cassibelan dismissed all his forces except about 4000 chariots, with which he watched the motions of the Romans, harassing them by cutting off straggling parties, &c. This.

however, was not sufficient to keep up the spirits of his countrymen. On the contrary, they deposed him and chose Mandubratius, whose father had been murdered by Cassibelan when he usurped the kingdom. The young prince had fled to Cæsar, who gave him protection; and the Trinobantes now offered to submit to the conqueror, provided he would give them Mandubratius for their king. Cæsar readily complied with their request, upon their sending him forty hostages; and the submission of the Trinobantes was soon followed by that of other states and tribes.

Cæsar next marched to Verulamium, Cassibelan's capital, of which he still kept possession; but though the place was strongly fortified the Britons soon fled. Many were taken and many more cut in pieces. After this loss, Cassibelan, as his last resource, drew into confederacy with him four kings (as Cæsar styles them), or rather chiefs of the Cantii. Their names were Cingetorix, Corvilius, Taximagulus and Segonax. These, having raised what forces they could, attacked the camp where the ships were laid up: but the Romans, having made a sally, repulsed them with great slaughter, after which Cassibelan submitted. A peace was concluded on these terms, that the Britons should pay an annual tribute to the Romans, that Cassibelan should leave Mandubratius in peaceable possession of his dominions, and that he should deliver a certain number of hostages. Cæsar then set sail with his whole fleet from Britain, to which he never returned. Such is Cæsar's own account of his two expeditions into Britain; but Dio Cassius tells us, that the Britons utterly defeated the Roman infantry, though they were at last put in disorder by their cavalry. Horace and Tibullus, in many parts of their works, speak of the Britons as a people not yet conquered. Tacitus says, that Cæsar rather showed the Romans the way to Britain, than put them in possession of it; and Lucan tells us plainly that Cæsar turned his back to the Britons and fled. This, however, considering the consummate military genius of Cæsar, is by no means probable. That he left Britain during winter, was probably to prevent insurrections among the Gauls; and his ambition would certainly be more gratified by being emperor of Rome, than conqueror of Britain.

The departure of Julius Cæsar, which happened about A. A. C. 53, left the Britons without any fear of a foreign enemy. We are not, therefore, to imagine, that they would regard their promises of paying tribute; nor was it probably demanded for many years afterwards. Augustus had twice a design of invading Britain, and forcing the inhabitants to pay the tribute promised to Julius Cæsar. Both times, however, he was prevented by revolts in different provinces, so that the Britons still continued to enjoy their liberty. They, however, courted the favor of the Romans by pretended submissions; but, in the reign of Claudius, the Romans set about reducing them to subjection in earnest. The occasion of this war is related by Dio Cassius as follows: 'Cunobelinus, the third in succession from Cassibelan, being dead, his two sons, Togodumnus and Caractacus succeeded to the throne;

but whether they reigned jointly or separately is not known. In their reign one Bericus, being exiled for sedition, fled with some of his partisans to Rome, and persuaded Claudius to make war on his countrymen. The Britons, on the other hand, resented the behaviour of Claudius in receiving these vagabonds, and therefore prohibited all intercourse with the Romans. A much smaller offence than this would have been sufficient to provoke that haughty nation to declare war. An army was therefore immediately ordered to Britain, under the command of Plautius, prætor in Gaul. The soldiers at first refused to embark, from a superstitious notion, that they were going to be sent beyond the compass of the world; and this mutiny being reported to the Britons, they did not make the necessary preparations for their own defence. But the Roman soldiers were soon brought to a sense of their duty; and set out from three different ports, in order to land in three different places of Britain at once. Being driven back by contrary winds, their fears began to return; they resumed their courage, however, on the appearance of a meteor shooting from the east, which they imagined was sent from heaven to direct their course. They landed without opposition; and the Britons, not having drawn together a sufficient army, kept in small bodies behind their marshes, and in woods, in order to protract the war till winter: which they imagined Plautius would, like Cæsar, spend in Gaul. The Roman general marched first in quest of the two kings Togodumnus and Caractacus; both of whom he found, and defeated one after another. He then reduced part of the Dobuni, at that time subject to the Catichelani; and, leaving a garrison to keep them in awe, he advanced to a river where the Britons lay carelessly encamped, supposing that the Romans could not pass it without a bridge. But the Germans in the Roman army had been accustomed to swim across the strongest currents in their heavy armour. They therefore passed the river first; and having fallen only upon the enemy's horses which drew their chariots, these formidable machines were rendered useless; and the Britons were put to flight as soon as another part of the forces passed the river. They, however, engaged the Romans next day with great bravery. Victory continued long doubtful; but at length the Romans prevailed. This battle is thought to have been fought on the banks of the Severn. From thence the Britons fled to the mouth of the Thames. They were closely pursued, but the Romans, being unacquainted with the flats and shallows of the river, were often in great danger. Their German allies, however, crossed by swimming as before, and the rest by a bridge farther up the river; so that the Britons were in a short time surrounded on all sides, and great numbers cut in pieces. Many of the Romans also, pursuing the fugitives with too great eagerness, were lost in the marshes.—In one of these battles Togodumnus was killed; but the Britons were so far from being disheartened, that they showed more eagerness than ever, in order to revenge his death. Plautius, therefore, did not think proper to penetrate farther into the country, but conten-

ted himself with putting garrisons in the places he had already conquered. He then wrote to the emperor himself: who no sooner received an account of his success, than he set out for Britain; where he joined Plautius on the banks of the Thames. Soon after the arrival of Claudius, the Romans passed the Thames, attacked the British army, and totally defeated it. The consequence was the taking of Cunobeline's capital, and the submission of several neighbouring states. The emperor, however, did not make a long stay in the island, but left Plautius to pursue his conquests. This he did with such success, that, on his return to Rome, he was met without the gates by the emperor, who, at his solemn entry, gave him the right hand.—The Britons seem to have made a very obstinate resistance to the Roman arms about this time. Vespasian is said to have fought thirty battles with them; and the exploits of his son Titus are also much celebrated by the Roman historians. In the ninth year of Claudius, P. Ostorius Scapula was sent into Britain. By far the greater part of the seventeen nations were at this time unconquered. Some of these had broken into the Roman territories; but Ostorius falling unexpectedly upon them, put great numbers to the sword, and dispersed the rest. To prevent them for the future from making inroads into the territories of the Romans or their allies, he built several forts on the Severn, the Avon, and the Nen, reducing the country south of these rivers to a Roman province. This so highly offended the Iceni, that, being joined by the neighbouring nations, they raised a considerable army, and encamped in an advantageous situation, in order to prevent the Romans from penetrating farther into the island. Ostorius, however, soon advanced against them. The Romans gained the victory, and the enemy were pursued with great slaughter. The Roman general then, having quelled an insurrection among the Brigantes, led his army against the Silures. They were headed by their king Caractacus, a renowned warrior. He showed his military talents by choosing a very advantageous place for engaging the enemy. Tacitus tells us, 'it was on the ridge of an exceeding steep mountain; and, where the sides of it were inclining and accessible, he reared walls of stone for a rampart. At the foot of the mountain flowed a river dangerous to be forded, and an army of men guarded his entrenchments.' This hill is thought to be Caer-Cardoc (the camp of Caractacus) in Shropshire, situated near the conflux of the rivers Clun and Teme, where the remains of ancient entrenchments are still visible. On the approach of the enemy, Caractacus drew up his troops in order of battle, and according to Tacitus, told them, 'That from this day, and this battle, they must date their liberty rescued, or their slavery for ever established. He then invoked the shades of those heroes who had expelled Cæsar the dictator; those brave men by whose valor they still enjoyed freedom from Roman tribute and taxes, and by which their wives and children were as yet preserved from prostitution.' The whole army then took a solemn oath either to conquer or die, and prepared for the charge with the most terrible

shouts. Ostorius was somewhat dismayed when he considered the uncommon fierceness of the enemy, and the other difficulties which he had to encounter. He led on his men, however, to the charge; and the Romans were attended with their usual good fortune. The Britons were put to flight. Vast numbers fell on the field of battle, and many more were taken prisoners. Among the latter were the wife, the daughter, and the brothers of Caractacus. The unfortunate prince himself fled to Cartismandua, queen of the Brigantes, by whom he was delivered up to the Roman general, who sent him in chains to Rome. Caractacus bore his misfortunes with magnanimity; and when he came before the emperor, addressed him in the following terms. 'If my moderation in prosperity, O Claudius! had been as conspicuous as my birth and fortune, I should now have entered this city as a friend, and not as a prisoner; nor would you have disdained the friendship of a prince descended from such illustrious ancestors, and governing so many nations. My present condition, I own, is to you honorable, to me humiliating. I was lately possessed of subjects, horses, arms, and riches. Can you be surprised that I endeavoured to preserve them? If you Romans have a desire to arrive at universal monarchy, must all nations, to gratify you, tamely submit to servitude? If I had submitted without a struggle, how much would it have diminished the lustre of my fall, and of your victory? And now, if you resolve to put me to death, my story will soon be buried in oblivion; but if you think proper to preserve my life, I shall remain a lasting monument of your clemency.'—This speech we are told had such an effect upon the emperor, that he immediately pardoned Caractacus and his whole family, and commanded them to be set at liberty.

The Silures, notwithstanding this terrible blow, continued the war with great vigor, and gained considerable advantages over the Romans; which so much affected Ostorius, that he died of grief. He was succeeded by Aulus Didius, who restrained the incursions of the Silures, but was not able to restore Cartismandua, queen of the Brigantes, who had been deposed by her subjects. Didius was succeeded by Veranius, and he by Suetonius Paulinus, who reduced the island of Anglesey. See *ANGLESEY*. But while Paulinus was employed in the conquest of this island, he was alarmed by the news of an almost universal revolt among those nations which had submitted to the Romans. The Britons, though conquered, still panted after independence; and the Roman yoke became every day more insupportable, through the insolence and oppressions of the Roman soldiers. An event at length happened which kindled these discontents into an open flame. Prasutagus, king of the Iceni, a prince renowned for opulence and grandeur, had, by his last will, left the Roman emperor joint heir with his two daughters in hopes of obtaining his favor and protection for them. But the result was very different. No sooner was he dead, than his houses and possessions were all plundered by the Roman soldiers. The queen Boadicea reonstrated against this injustice; but, instead of obtaining any redress, she herself

was publicly whipped, her daughters ravished, and all the relations of the late king reduced to slavery. The whole country also was plundered, and all the chiefs of the Iceni deprived of their possessions. Boadicea was a woman of too great a spirit tamely to bear such indignities. She easily persuaded the Iceni to take up arms, who, being joined by the Trinobantes, and some other nations, poured like a torrent on the Roman colonies. Everything was destroyed with fire and sword. The ninth legion, which had been left under Petilius Cerealis, was defeated, the infantry totally cut in pieces, and the commander himself with the cavalry escaped with the utmost difficulty. Suetonius immediately left Anglesey, and marched to London. The inhabitants were overjoyed at his arrival, and used their utmost endeavours to detain him for their defence. But he refused to stay, and in a short time left the place notwithstanding their intreaties. Suetonius was scarce gone, when Boadicea with her Britons entered, and put all they found in it to the sword. Many were tortured in the most cruel manner, and 70,000 persons are said to have perished on this occasion at London and other Roman colonies. The Britons, now elated with success, assembled from all quarters in great numbers, so that Boadicea's army soon amounted to 280,000 men. They despised the Romans; and became so confident of victory, that they brought their wives and children in waggons, to be spectators of the destruction of their enemies. The event was suitable to such ill judged confidence. The Britons were overthrown in a general engagement with most terrible slaughter, no fewer than 80,000 being killed in the battle and pursuit; while the Romans had not above 400 killed, and not many more wounded. Boadicea, not able to survive so great a calamity, is said to have poisoned herself. By this overthrow the Britons were intimidated from raising any more insurrections, and those who had not yet submitted to the Roman yoke, from making incursions into their dominions. Nothing remarkable therefore happened for some time.

In the reign of Vespasian, Petilius Cerealis, being appointed governor of Britain, attacked the Brigantes, defeated them in several battles, and reduced great part of their country. He was succeeded by Julius Frontinus; who not only maintained the conquests of his predecessor, but reduced entirely the warlike nation of the Silures. Frontinus was succeeded by the celebrated Cneius Julius Agricola, who completed the conquest of all the southern Britons. Just before the arrival of Agricola, the Ordovices had cut in pieces a band of horse stationed on their confines, after which the whole nation had taken arms. The summer was pretty far spent, and the Roman army was quite separated and dispersed, the soldiers having assured themselves of rest for the remaining part of the year. Agricola, however, was no sooner landed, than, having drawn together his legions, he marched against the enemy without delay. The Britons kept upon the ridges of the mountains, but Agricola led his troops in person up the ascents. The Romans were victorious; and such a terrible slaughter was made of the Britons that almost

the whole of the Ordovices were cut off. Without giving the enemy time to recover from the terror which this overthrow had occasioned, Agricola resolved upon the immediate reduction of Anglesey, which had been lost by the revolt of Boadicea. Being destitute of ships, he detached a chosen body of auxiliaries who knew the fords, and were accustomed to manage their arms and horses in the water. The Britons, who had expected a fleet and transports, were so terrified by the appearance of the Roman forces on their island, that they immediately submitted, and Anglesey was once more restored to the Romans. With the conquest of Anglesey ended the first campaign of Agricola; and he employed the winter in reconciling the Britons to the Roman yoke. In this he met with such success, through his wise policy, that the Britons began to prefer a life of security and peace, to that independency which they had formerly enjoyed, and which continually exposed them to the tumults and calamities of war. See AGRICOLA. His succeeding campaigns were attended with equal success; he not only subdued the seventeen nations inhabiting England, but carried the Roman arms almost to the extremity of Scotland. He also caused his fleet to sail round the island, and discovered the Orades, or Orkney Islands, which had before been unknown to the rest of the world. This expedition took him up about six years, and was completed A. D. 84.

Had Agricola been continued in Britain, it is probable that both Scotland and England would have been permanently subdued; but he was recalled by Domitian in the year 85, and we are thence almost totally in the dark about the British affairs, till the reign of Adrian. During this interval the Caledonians had taken arms, and ravaged the territories of the Britons, who continued faithful to the Romans. Adrian abandoned to them the whole track lying between the Tyne and the Forth; but to restrain them from making incursions into the Roman territories, he built a wall eighty miles in length, from the river Eden in Cumberland to the Tyne in Northumberland. See ADRIAN. Under his successor, Antoninus Pius, the Brigantes revolted; and the Caledonians, having in several places broken down Adrian's wall, began anew to ravage the Roman territories. Against them the emperor sent Lollius Urbicus, who reduced the Brigantes; and having defeated the northern nations, confined them within narrower bounds by a new wall, extending probably between the friths of Forth and Clyde. See ANTONINUS. From the time of Antoninus to that of Severus, the Roman dominions in Britain continued to be much infested by the inroads of the northern nations. That emperor divided Britain into two governments, the southern and northern; but the governor of the northern division was so harassed by the continual incursions of the Caledonians, that he was at length obliged to purchase a peace with money. The Caledonians kept the treaty for fifteen years; after which, breaking into the Roman territories anew, they committed terrible ravages. Virius Lupus, the governor, not being in a condition to withstand them, acquainted the emperor with his distress, intreating

him to send powerful and speedy supplies. Upon this Severus resolved to put an end to the perpetual incursions of the enemy, by making a complete conquest of their country; for which purpose he set out for Britain, with his two sons, Caracalla and Geta, at the head of a numerous army. The Caledonians no sooner heard of his arrival, than they sent ambassadors offering to conclude a peace upon honorable terms. But these the emperor detained till he was ready to take the field, and then dismissed them without granting their request. As soon as the season was fit for action, Severus marched into Caledonia, where he put all to fire and sword. He advanced even to the most northerly parts of the island; and though no battle was fought, yet through the continual ambuscades of the enemy, and the inhospitable nature of the country, he is said to have lost 50,000 men. At last the Caledonians sued again for peace; which was granted them on condition of their yielding part of their country, and delivering up their arms. After this the emperor returned to York, leaving Caracalla to command the army, and finish the new wall between the friths of Forth and Clyde. But the emperor being taken ill at York, the Caledonians again took up arms. This provoked Severus to such a degree, that he commanded Caracalla to enter their country anew with the whole army, and to put all he met to the sword. Before these orders, however, could be put in execution, his two sons, having concluded a shameful peace with the Caledonians, returned to Rome. A long chasm now takes place in the history of the Roman dominions in South Britain. In the beginning of Dioclesian's reign, Carausius, a native of Gaul, passing over into Britain, took upon him the title of emperor, and was acknowledged by all the troops quartered here. He was, however, killed in a battle with one of Constantius's officers, after he had enjoyed the sovereignty for six or seven years. Constantine the Great began his reign in this island; and returned soon after he had left it, probably with a design to put a stop to the daily incursions of the Caledonians. He altered the division of that part of Britain subject to the Romans. Severus had divided it into two provinces, but Constantine increased the number to three, viz. *Britannia Prima*, *Secunda*, and *Maxima Cæsariensis*; and this last was afterwards divided into two, viz. *Maxima Cæsariensis* and *Flavia Cæsariensis*. The removal of the imperial seat to Constantinople, gave the northern nations an opportunity of making frequent incursions into the Roman provinces; the emperor having carried with him, first into Gaul, and then into the east, not only most of the Roman troops, but likewise the flower of the British youth. About the end of the reign of Constantius II. the government of Britain and other western parts of the empire was committed to Julian, afterwards emperor. While he was in his winter quarters at Paris, he was informed that the Scots and Picts, (about this time first distinguished by these names), had broken into the Roman territories and committed dreadful ravages. Against them Julian despatched a body of troops under the command of Lupicinus. He embarked from

Boulogne in the depth of winter, but was no sooner arrived at London than he was recalled; the enemy having probably appeased Julian by submission. Till the reign of Valentinian I. these nations still continued to infest the Roman territories in Britain, and had now reduced the country to a most deplorable condition by their continual ravages. Valentinian sent against them Theodosius, father of Theodosius the Great. That general, having divided his forces into several bodies, advanced against the Scots and Picts, who were obliged to yield to the superior discipline of the Romans. Great numbers were cut in pieces; and the rest were forced to abandon all their booty, and retire beyond the friths of Forth and Clyde. Theodosius then entered London in triumph, and restored that city to all its former splendor. To restrain them from breaking anew into the provinces, he built several forts between the two friths; and, having thus recovered all the country between Adrian's wall and the friths, he formed of it a fifth province, which he called *Valentia*. Though Britain was now in a state of temporary tranquillity, yet, as the Roman empire was daily declining, sufficient care could not be taken to secure such a distant province. In the reign of Honorius, the provincial Britons were annoyed not only by the Scots and Picts, but also by the depredations of the Saxons, on the sea coasts. By the care, however, of Stilicho, prime minister to Honorius, matters were once more settled, and a particular officer was appointed to guard the coast against the Saxons, with the title of *Comes limitis Saxonici*. But, not long after, the empire being over-run by barbarians, most of the Roman troops in Britain were recalled, and the country left open to the attacks of the Scots and Picts. Upon this the provincials, expecting no more assistance from Honorius, resolved to set up an emperor of their own. Accordingly they invested with the imperial dignity one Marcus, an officer of great credit among them. Him they murdered in a few days, and placed on the throne Gratian, a native of Britain. After a reign of four months, Gratian underwent the fate of his predecessor, and was succeeded by Constantine, who was chosen merely for the sake of his name. He seems, however, to have been a man of some experience in war. He drove the Scots and Picts beyond the limits of the Roman territories; but, being elated with this success, he would now be satisfied with nothing less than the conquest of the whole Roman empire. See *CONSTANTINE*.

He now, therefore, passed over into Gaul, in 407, and took with him not only the few Roman forces that had been left, but such of the provincial Britons as were most accustomed to arms, leaving the rest entirely defenceless. Their enemies now broke into the country, and ravaged it with fire and sword; whereupon the Britons, having repeatedly implored assistance from Rome without receiving any, resolved to withdraw their allegiance from an empire which was no longer able to protect them. Honorius himself applauded their conduct, and advised them, by letters, to provide for their own safety. The provincial Britons now regained their liberty, but had lost the martial spirit which at first re-

dered them so formidable to the Romans. They, however, met with some success in their first enterprises; for Zosimus tells us, that they delivered their cities from the insults of an haughty enemy. But, being at last overpowered, they again had recourse to the Roman emperor, to whom they promised a most perfect submission, provided they were delivered from their merciless enemies. Honorius, touched with compassion, sent a legion to their relief. The Roman forces landed in Britain unexpectedly, and having destroyed great numbers of the Scots and Picts, drove them beyond the friths of Forth and Clyde. After this they advised the natives to build a wall on the isthmus from sea to sea; to re-assume their courage, and defend themselves by their own valor. The Romans then quitted the country, being obliged to return, in order to repel those barbarians who had broken into other parts of the empire from all quarters. The Britons immediately set about building the wall with great alacrity. But, as it was constructed only of turf, the Scots and Picts soon broke it down in several places; and, pouring in upon the effeminate provincials, committed more cruel ravages than ever. At last, after many grievous calamities, the Britons sent ambassadors once more to Rome. These appeared with their garments rent, and dust on their heads; and at last prevailed on the emperor, by their earnest entreaties, to send another legion to their relief. The troops arrived in Britain before the enemy knew of their having set sail. They were therefore quite unprepared. The Romans made a terrible havoc among them, and drove the remainder into their own country. As Honorius had sent them, not with any ambitious view, but merely out of compassion to the unhappy provincials, the Romans told them they had now no farther assistance to expect from them. They informed them that the legion must immediately return to the continent, to protect the empire from the barbarians, who had extended their ravages almost to every part of it; and therefore, that they must now take their last farewell of Britain. After this declaration, Gallio, the commander of the Roman troops, exhorted the Britons to defend themselves, by fighting bravely for their country, wives, and children, and what ought to be dearer than life itself—their liberty; telling them, at the same time, that their enemies were no stronger than themselves, provided they would exert their ancient courage and resolution. That they might the better withstand them, he advised them to build a wall of stone, offering to assist them with his soldiers, and to direct them himself in the execution. To this task the Britons immediately applied; and, with the assistance of the Romans, finished it in a short time, though it was no less than eight feet thick, and twelve feet in height. It is thought to have been built on the same place where Severus's wall formerly stood. Towers were also built at convenient distances on the east coast, to prevent descents of the Saxons and other barbarians from Germany. Gallio employed the rest of his time in teaching the provincials the art of war. He left them patterns of the Roman weapons, which he also taught them to make; and, after many encourag-

ing exhortations, took his last farewell of Britain, to which the Romans never returned. There is a great disagreement among chronologers, as to the year in which the Romans finally abandoned Britain; some placing it in 422; others in 423, or 426; and some in 431, 435, or 437.

It was during their struggle with the Romans for the domination of Britain, that Christianity was first introduced among the inhabitants of this island; not by the sword, not as the religion of the state, but by the peaceful preaching of that divine system in the midst of its early persecutions. Dr. Southey (*Book of the Church*, vol. i. p. 12), considers the most probable tradition on this subject to be, that which assigns to Bran the son of Lear, and father of Caractacus, the honor of bringing over the glad tidings. This the Welsh triads expressly state. 'He was the person who first introduced the Christian religion among the nations of the Cymry, from Rome, where he had been detained for seven years as a hostage for his son Caradac (Caractacus) whom the Romans made a captive through the treachery of Aregweda Todeddawg,' i. e. Cartismandua, queen of the Brigantes.

Bishop Stillingfleet, in his *Origines Britannicæ*, says confidently, 'It is certain, that St. Paul did make considerable converts at his coming to Rome; which is the reason of his mentioning the saints in Cæsar's household. And it is not improbable that some of the British captives, carried over with Caractacus and his family, might be some of them, who would certainly promote the conversion of their country by St. Paul.' Now it is remarkable, as Mr. Hughes observes, that the learned prelate should undesignedly coincide with the statement of a British tradition, 'with which he was utterly unacquainted; and the world might have continued ignorant of so valuable a fragment of historical intelligence, had it not been for the liberality of an opulent London tradesman, a native of Wales (Owen Jones, Esq. a furrier of Thames-street), who patronised the design of collecting materials for a Welsh Archaeology.'

The wife of Aulus Plautius, one of the most distinguished Roman generals, and governor of Britain, seems to have been another early convert to the Christian faith. Tacitus says, this lady was charged with having embraced a strange and foreign superstition, for which alleged crime her trial was committed to her husband. He, agreeable to the laws and ancient forms of proceeding in such cases, convened her family and friends together; and, being in their presence tried for her life and fame, she was pronounced innocent.' He adds, 'that the lady lived long after this, but in perpetual sadness.'

There was no other foreign religion of which the Romans were at this time jealous; to embrace Christianity openly, would clearly therefore be viewed as a crime, especially in a person of quality, and the wife of a public officer. The trial of Plautius's lady occurred, according to Stillingfleet, when Nero and Calpurnius Piso were consuls, or A. D. 57, which being, according to him, after St. Paul's coming to Rome, he considers her to have been one of the apostle's converts. Another circumstance has been no-

ticed by bishop Goodwin, and archbishop Usher; it is that St. Paul, in his second epistle to Timothy, makes mention of Linus, and Pudens, and Claudia: Linus is supposed to be the same as the first bishop of Rome of that name. Pudens and Claudia are thought to be the same persons upon whose marriage the poet Martial composed one of his epigrams. Martial's Claudia was undoubtedly a British lady, and married to Pudens, as appears by the poet's encomium:—

Claudia cœruleis, cum sit Rufina Britannis
Edita, cur Latiae pectora plebis habet?
Quale decus formæ! Romanam credere matres
Italides possunt, Attides esse suas, &c.

‘Legends which act upon less credible grounds,’ adds Southey, ‘pretend that a British king, called Lucius, who was tributary to the Romans, was baptised with many of his subjects. The light of the world shone here, but we know not who kindled it.’

We have noticed all that can be said with truth of the story of St. Alban, as given by Bede and the monkish writers. See ALBAN. But it seems well established that three British bishops attended the council of Arles, B. D. 314. The signatures were, according to Usher, from the Council. Galliæ, edit. Paris, 1629:—Eborius Episcopus, de Civitate Eboracensi, Provincia Brit. Restitutus Episcopus, de Civitate Londinensi, Provincia supsr. Adelphus Episcopus, de Civitate Colonia Londinensium, exinde Sacerdos Presbyter. Arminius Diaconus.

St. Athanasius and the bishops assembled in the council of Antioch, A. D. 363, assure the emperor Jovian, that the bishops of Spain, Gaul, and Britain, continued to adhere to the faith of the council of Nice, of which they had been informed by letters from those bishops. Both St. Jerome and St. Chrysostom, speak often of the orthodoxy of the British church in their writings.

Here Pelagianism arose in the beginning of the fifth century; and bishop Burgess contends strenuously that the British prelates of the seventh century formally and steadily disclaimed all authority assumed over them by St. Austin, as the missionary of Rome.

Austin landed in Kent, says a valuable modern writer, prevailed on Ethelbert to profess christianity, and afford him his sanction; though Bertha the Queen, let it be observed, was previously a Christian, and had always had her own religious establishment. This holy and devoted monk soon proved that his zeal to convert pagans was mingled with an ambition to convert the ancient British clergy from their independence. He summoned a synod, at which he required them to conform to the ceremonies of the church of Rome, from which they differed in several things, especially on that cardinal point, the time for celebrating Easter! This may appear to our readers a trifling difference, but such was the importance attached to it in that age, that it gave rise to the most violent dissensions, and required for its maintenance the greatest independence of principle. This synod was followed by another, at which seven British bishops were

present, who boldly and unanimously refused the conformity required, and told the arrogant monk, to his face, that they would not make him their archbishop. Thus it appears that Christianity was professed in Britain even before the popedom existed, and that, at the period when Gregory sent his emissaries hither, they were rejected as the agents of a foreign hierarchy, and doomed, in the fervor of British zeal for Christian liberty, to the same indignant treatment as might have been expected by ‘a setter forth of strange gods.’ Supposing the reverence for our ancestors a feeling of any value in this controversy, what must we think of those injudicious advocates of Popery, among whom the non-descript Cobbett has taken his stand, who, addressing themselves to this reverence, throw the darkness of their mistakes over the past, and misrepresent the characters they invite us to imitate! Instead of clinging to Popery as the most ancient religion of our fathers, those are only acting in their spirit, and treading in their steps, who oppose and renounce it. And when we discover the delusion which is attempted to be put upon us, in being called to follow the Anglo-Saxon converts of Austin amidst the superstitions of Rome, to the neglect of those British Christians whom these Saxons and this Austin opposed in their attempts to preserve their own authority and customs; the generous ardor of men who feel the love of country and ancestry is roused into indignation, and if we moderate our censure on the Romish missionaries, in the hope that they were useful in some respects, we feel disgusted with the man who lauds them as the source of all the Christianity which originally shone on our land. No fact is better authenticated than this, that when Austin attempted to establish the authority of the Bishop of Rome in Britain, he had the Christianity of centuries to contend with.

‘But above all others,’ says Usher, ‘the British priests that dwelt in West Wales abhorred the communion of these dogmatists above all measure: as Adhelme, abbot of Malmesbury, declareth at large, in his epistle sent to Geruntius, king of Cornwall, where among many other particulars he sheweth, that if any of the Catholics (for so he called those of his own side) did go to dwell among them, they would not vouchsafe to admit them into their company and society, before they first put them to forty days penance,—yea, even to this day (saith Bede, who wrote his History in the year 721) it is the manner of the Britains to hold the faith and religion of the English in no account at all, nor to communicate with them in anything more than with Pagans. Whereunto those verses of Taliessin (honored by the Britains with the title of Ben Beirdd, that is, the chief of the bards, or wise men,) may be added: (which shows that he wrote after the coming of Austin into England, and not fifty or sixty years before, as others have imagined.)

Wo be to him that doth not keep
From Romish wolves, his sheep.
With staff and weapon strong.

Usher's Discourse of the Religion of the Ancient Irish and British, 1687, p. 82.

3. *Of Britain after its abandonment by the Romans, until the Saxon Conquest.*—The final departure of the Romans was no sooner known to the Scots and Picts, than they poured in upon the provincial Britons from all quarters, according to Gildas, like hungry wolves into a sheepfold. When the Scots approached the new built wall, they found it guarded by great numbers of armed men. But so little had the Britons profited by the military instructions of the Romans, that instead of placing proper guards, and relieving one another by turns, their whole number had staid several days and nights upon the ramparts, without intermission. Being therefore quite benumbed and wearied out, they were able to make but little resistance. Many were pulled down with hooks from the battlements, and dashed in pieces. The rest were driven from their stations with showers of darts and arrows. They betook themselves to flight; but the Scots and Picts pursued them close, made a dreadful havoc among the fugitives, and took possession of the frontier towns, which were deserted by the inhabitants. As they now met with no more opposition, they over-ran the whole country. Their ravages soon occasioned a famine; and this was followed by a kind of civil war. The whole country at last became so incapable of supporting those who were left in it, that many fled into the woods, in order to subsist by hunting. In this extremity of distress, they had once more recourse to the Romans; and wrote in the most mournful style that can be imagined to Aetius then consul. Their letter was addressed: ‘The groans of the Britons, to the consul Aetius.’ The contents of this letter were answerable to the direction. ‘The barbarians (say they) drive us to the sea; and the sea drives us back to the barbarians; between which we have only the choice of two deaths, either to be swallowed up by the waves, or to be cruelly massacred by the enemy.’ To this letter the Roman general gave no satisfactory answer, and the provincials were thereupon reduced to despair. Great numbers fled over to Armorica, where they settled along with others who had formerly gone over with an usurper called Maximus; while others submitted to the Scots and Picts. Some, however, more resolute than the rest, had once more recourse to arms. They sallied out in parties, and, falling unexpectedly on the enemy, cut great numbers of them in pieces, and obliged the rest to retire. Having thus obtained some respite, they began again to cultivate their lands, which now produced all kinds of grain in the greatest plenty; a plenty which, according to Gildas, occasioned the utmost corruption of manners among all ranks. The clergy, says he, who should have reclaimed the laity by their example, proved the ringleaders in every vice; being addicted to drunkenness, contention, envy, &c. Nor is it probable that this description was exaggerated by Gildas, who was himself a monk. However this was, the Britons had not long enjoyed peace, when they were alarmed by a report that the Scots and Picts were about to return in far greater force. This threw them into the greatest consternation; and, to add to their misfortunes, they were now visited by a dreadful plague which raged with such violence, that the living

were scarce sufficient to bury the dead. The contagion no sooner ceased than they were invaded by the Scots and Picts, who destroyed everything with fire and sword. Such is Gildas’ narrative: Mr. Turner, however, here introduces a brilliant period of the history of Independent Britain. But he acknowledges it to have been very short. At this time Vortigern, Gurthgern, or Gwrtheyrn, is mentioned by various writers as the chief, if not the only king of the southern division of Britain. He is said to have been a cruel debauched tyrant, regardless of the public welfare, and totally incapable of promoting it. Being now roused from his insensibility, however, by a sense of his own danger, he summoned a council of the chief men of the nation, to consult about the proper means for delivering the country from its calamities. In this council the most pernicious measure was adopted that could possibly have been resolved on; namely, to invite to their assistance the Saxons, a people famous for their piracies and cruelties, and justly dreaded by the Britons themselves. See SAXONS. The fatal expedient being agreed upon, ambassadors are said by some writers, to have been despatched into Germany; who, according to Witichind, a Saxon historian of the ninth century, made a dolorous speech before an assembly of that nation, and were very favorably received by the Saxons. The latter embraced their proposal with joy; their soothsayers foretold that they should plunder their British allies for 150 years, and reign over them for twice that time. Three ships were therefore fitted out, this account proceeds to say, under the conduct of Hengist and Horsa, two brothers much celebrated for their valor. They were sons of Witigisil, said to be great grandson to the Saxon god Woden; a circumstance which added much to their authority. Having embarked about 1600 men on board their three vessels, the two brothers arrived in the isle of Thanet, in 449, or 450. They were received by the inhabitants with the greatest demonstrations of joy; the isle in which they had landed was immediately appointed for their habitation; and a league was concluded, in virtue of which the Saxons were to defend the provincial Britons against all foreign enemies; and the provincials were to allow the Saxons pay and maintenance, besides the place allotted them for their abode. Soon after their arrival, king Vortigern led them against the northern nations, who had lately broke into the kingdom, and advanced as far as Stamford, in Lincolnshire. Here a battle was fought, in which the Scots and Picts were utterly defeated. Vortigern was so highly pleased with his new allies, that he bestowed large possessions upon Hengist and Horsa. It is said, that, even at this time, Hengist was delighted with the wealth and fertility of the country; and that, observing the inhabitants to be quite enervated with luxury, he began to entertain hopes of conquering part of it. He, therefore, with Vortigern’s consent, invited over more of his countrymen, informing them of the fruitfulness of the country, the effeminacy of the inhabitants, and how easily a conquest might be effected. The Saxons readily complied, and in 452, as

many more arrived in seventeen vessels, as, with those already in Britain, made up 5000 men. Along with these came over Rowena, the daughter of Hengist. Vortigern fell in love with this lady; and to obtain her in marriage, divorced his queen. Hengist pretended to be averse to the match; but Vortigern obtained his consent by investing him with the sovereignty of Kent. Vortigern had as yet continued in friendship with the Saxons, and even put more confidence in them than in his own subjects. For, not long after the arrival of this reinforcement, Hengist obtained leave to send for a second, in order, as was pretended, to defend the king from the attempts of his rebellious subjects. These embarked in forty ships, under the command of Octa and Ebasa, the son, or brother, or nephew of Hengist. They landed at the Orkney islands; and having ravaged them, and all the northern coasts of Scotland, they conquered several places beyond the Frith, and at last obtained leave to settle in Northumberland. The pretence for this settlement was, that the Saxons under Octa and Ebasa might defend the northern frontiers of the kingdom, as those under Hengist and Horsa did the southern parts. Many more Saxons were, under various pretences, invited over: till at last, their numbers being greatly increased, they began to quarrel with the natives. They demanded larger allowances of corn and other provisions; threatening to lay waste the whole country if their demands were not complied with. The Britons, instead of complying, desired them to return home, since their numbers exceeded what they were able to maintain. Upon this the Saxons concluded a peace with the Scots and Picts; and, turning their arms against the unhappy Britons, over-ran the whole country, committing everywhere the greatest cruelties. All buildings, whether public or private, they levelled with the ground. The cities were pillaged and burnt; and the people massacred in such numbers, without distinction of sex or age, that the living scarce sufficed to bury the dead. Those who escaped took refuge among inaccessible rocks and mountains, where they either perished with hunger, or were forced to surrender as slaves to their enemies. Some crossed the sea and settled in Holland, and in Armorica in Gaul. Vortigern was so far from being reclaimed by these calamities, that he added incest to his other crimes, and married his own daughter. At last, his own subjects, provoked at his enormous wickedness, and the partiality he had shown to the Saxons, deposed him, and raised his son Vortimer to the throne. He was a young man of great valor, and willingly undertook the defence of his distressed country. He first fell upon the Saxons, and drove them into the isle of Thanet, where he besieged them, till, being reinforced by fresh supplies, they opened a way through the British troops. Vortimer, however, engaged them, on the banks of the Darent, in Kent, where he obtained a complete victory. Another battle was fought at Aylesford, in which Horsa the brother of Hengist was killed. A third battle was fought, in which the victory was uncertain, as is also the place where it happened. The fourth battle, however, according to Nennius, proved decisive in favor

of the Britons. Vortimer engaged his enemies, according to some, at Folkstone; according to others, at Stonar, in the isle of Thanet. The Saxons were defeated with great slaughter, and driven back to their ships. So complete is the victory said to have been, that the Saxons quitted the island, without making any attempt on it for five years afterwards. These battles, however, rest entirely upon the credit of Nennius, and the historians who have followed him. They are taken notice of neither by Gildas nor Bede. The former, indeed, acquaints us that the Saxons retired. This, by most historians, is understood of their returning home; though he might mean no more, than that they retired into Kent and Northumberland. Vortimer died after a reign of six years, and Hengist no sooner heard of his death, than he invaded Britain anew with a numerous body of Saxons. He was opposed by Vortigern, who had been restored on the death of his son. Several battles were fought, but at last the Britons being overthrown at a place called Crecanford, with the loss of 4000 men, were obliged to abandon Kent, and retire to London. This happened about A. D. 458 or 459.

From this time most historians date the erection of the first Saxon kingdom in Britain, viz. that of Kent. Hengist assumed the title of king, and chose Esk his son for his colleague. The Britons under Vortigern still continued the war. Hengist finding himself unable to gain a decisive advantage over them in the field, had recourse to treachery. He pretended to be desirous of concluding a peace with the British monarch, and of renewing his ancient friendship with him; and therefore required an interview. To this Vortigern readily consented, and accepted an entertainment prepared for him by Hengist. The king was attended by 300 nobility, all unarmed, but the Saxons had concealed daggers below their garments. The British nobility were all treacherously massacred in the height of their mirth; Vortigern himself was taken and put in fetters; nor could his liberty be procured, but by ceding to the Saxons those provinces now called Essex, Sussex, and Middlesex. The Saxons thus obtained such a footing in Britain that they could never afterwards be expelled. Vortigern, after being set at liberty, is said to have retired to a vast wilderness near the fall of the Wye in Radnorshire, where he was some time after consumed by lightning, together with a city called Kaer Vortigern, which he had built at that place. On the retreat of Vortigern, the command of the British forces devolved upon Aurelius Ambrosius, who gained several victories over the Saxons. See AMBROSIIUS. Notwithstanding this, they still continued to gain ground; and, in 491, the foundation of a second Saxon kingdom was laid in Britain. This at first comprehended only the county of Sussex, but soon after extended over most of the counties lying south of the Humber. It was called the kingdom of the South Saxons. The German nations being informed of the success of the Saxons, in Britain, new adventurers daily flocked over. They were chiefly of three nations, Saxons, Angles, and Jutes. All these passed under the

common appellation sometimes of Saxons, sometimes of Angles. They spoke the same language, and agreed very much in their customs, so that all of them naturally combined against the natives. The most active of these adventurers was Cerdic a Saxon, said to be the tenth in descent from Woden. He landed with his son Cenric, and as many men as he could convey in five ships, at Yarmouth in Norfolk. The Britons immediately attacked him with great vigor; but, after a short engagement, they were totally defeated. Many other battles were fought, the event of which was always favorable to the Saxons, so that the Britons were forced to abandon their coasts to them. In 497 Porta, another Saxon, with his two sons Bleda and Magla, and a fresh body of Saxons, arrived at Portsmouth, so named, it is said, from this chieftain. The Britons attempted to oppose their landing, but were defeated with great slaughter; after which Porta made himself master of all the neighbouring country. The progress of Cerdic, however, alarmed the Britons more than that of all the other Saxon princes. About the year 508, therefore, Nazaleod, styled by Henry of Huntingdon, the greatest of all the British kings, assembled almost the whole strength of the South Britons to drive him out of the island. Cerdic, on the other hand took care to strengthen himself by procuring assistance from all the Saxons already in the island. He then advanced against the Britons, commanding the right wing himself, and his son Cenric the left. As the two armies drew near each other, Nazaleod perceived the enemy's right wing to be much stronger than the left. He therefore attacked it with the flower of his army; and after an obstinate resistance, obliged Cerdic to save himself by flight. But, being too eager in the pursuit, Cenric fell upon his rear; and the British army was at last entirely defeated; and 5000 men, among whom was Nazaleod himself, were left dead on the spot. Who succeeded Nazaleod is not known. The Welsh annals have an interregnum of about six years; after which they place the beginning of the reign of Arthur, the most renowned of our ancient princes. His history is so much obscured by absurd, romantic, and ridiculous fables, that some have supposed, no such person ever existed. But a decisive proof of his existence is, that his tomb was discovered at Glastonbury in Somersetshire, and his coffin dug up, in the reign of Henry II. See ARTHUR. This renowned prince is said to have defeated the Saxons under Cerdic in twelve pitched battles. The last of them was fought on Badon hill (supposed to be Lansdown near Bath), in which the Saxons received such a terrible overthrow, that for many years they gave the Britons no further molestation. As new supplies of them, however, were continually flocking over, a third and fourth kingdom of them were soon formed. The third kingdom comprehended the counties of Devon, Dorset, Somerset, Wiltshire, Hampshire, and Berkshire; to which was afterwards added Cornwall. This was called the kingdom of the West Saxons. The other kingdom, which was called the kingdom of the East Saxons, comprehended Essex, Middlesex, and part of Hertfordshire. In 542

king Arthur was mortally wounded, fighting with his treacherous nephew, Mordred, whom he killed on the spot. Five years afterwards the Saxon kingdom of Northumberland was erected. It extended much farther than the present bounds of that county; for it comprehended all Yorkshire, Lancashire, Durham, Cumberland, Westmoreland, and Northumberland, with part of Scotland, as far as the frith of Forth. Between these Saxon kings frequent contentions now arose, by which means the Britons enjoyed an uninterrupted tranquillity for at least forty-four years. The sixth Saxon kingdom, called that of the East Angles, was founded in 575, and comprehended the counties of Norfolk, Suffolk, Cambridge, and the Isle of Ely. The Saxons once more attacked the Britons, and overthrew them in many battles. The war was continued for ten years; after which the seventh Saxon kingdom, called Mercia, was set up. It comprehended seventeen counties, viz. Gloucester, Hereford, Worcester, Warwick, Leicester, Rutland, Northampton, Lincoln, Huntingdon, Bedford, Buckingham, Oxford, Stafford, Nottingham, Derby, Shropshire, Cheshire, and part of Hertfordshire. The Britons were now confined within very narrow bounds. However, before they entirely gave up the best part of their country to their enemies, they once more resolved to try the event of a battle. At this time they were assisted by the Angles, who were jealous of the overgrown power of the West Saxons. The battle was fought in Wiltshire, at Woden's Beath, a place near the ditch called Wansdike or Wodensdike: which runs through the middle of the county. The battle was very obstinate and bloody; but at last the Saxons were entirely defeated, and almost their whole army cut off. The victory, however, proved of little service to the Britons: for being greatly inferior in number to the Saxons, and harassed by them on the one side, and by the Scots and Picts on the other, they were daily more and more confined; and at last obliged to take refuge among the craggy and mountainous places in the west of the island, where their enemies could not pursue them. At first they possessed all the country beyond the rivers Dee and Severn, which anciently divided Cambria or Wales from England; the towns which stand on the eastern banks of these rivers having mostly been built to restrain the incursions of the Welsh. But the Anglo-Saxons, having passed the Severn, by degrees seized on the country lying between that river and the Wye. Nay, some parts even of Flintshire and Denbighshire were subject to the kings of Mercia: for Uffa, the most powerful king of that country, caused a deep ditch to be drawn, and a high wall built as a barrier between his dominions and the territories of the Welsh, from the mouth of the river Dee, a little above Flint Castle, to the mouth of the Wye. This ditch is still to be seen in several places; and is called by the Welsh *Claudh Uffa*, or the ditch of Uffa. The inhabitants of the towns on the east side of this ditch are called by the same people *Guyr y Mers*; that is, the men of Mercia. Thus, after a violent contest of near 150 years, the Saxons entirely subdued the Britons whom they had come to

defend, and eventually erected seven independent kingdoms, or the Saxon Heptarchy.

4. *Of the Saxon Conquest and Heptarchy, until the union of the whole under the dominion of Egbert.*—South Britain, which now began to be called Anglia, or England, from the Angles, (See ANGLES), was soon reduced by its Saxon conquerors to a degree of barbarity, almost as great as it had been in, when first invaded by the Romans. The provincial Britons, during their subjection to that people, had made considerable advances in civilisation. They had built twenty-eight considerable towns, besides a number of villages and country seats; but these now were all levelled with the ground, the native inhabitants were reduced to the most abject slavery, and every art and science totally extinguished among them. Before these fierce conquerors could be civilised in any degree, it was necessary that all their kingdoms should be reduced under one head; for, as long as they remained independent, their continual wars with each other still kept them in the same state of barbarity and ignorance. The history of these kingdoms affords few facts that are interesting, on any great scale. It consists only of a detail of their quarrels for the sovereignty. This was at last obtained by Egbert king of the West Saxons, in Wessex, in 827. Before his time, Christianity had been introduced into almost all the kingdoms of the heptarchy, and however much corrupted it might be by coming through the impure channel of the church of Rome, and misunderstood through the ignorance of those who received it, it had considerably softened the barbarous manners of the Saxons. It had also opened a communication between Britain and the more polite parts of Europe, so that there was now some hope of the introduction of arts and sciences into this country. Another effect was, that, by the ridiculous notion of encouraging chastity, the royal families of most of the kingdoms were totally extinct; and the people, being in a state of anarchy, were ready to submit to the first who assumed any authority over them. All these things contributed to the success of Egbert in uniting the heptarchy under his own dominion. He was of the royal family of Wessex; and a nearer heir than Brithric, who had been raised to the kingdom in 784. As Egbert was a prince of great accomplishments, Brithric, knowing that he had a better title to the crown than himself, began to look upon him with a very jealous eye. Young Egbert, sensible of his danger, privately withdrew to France; where he was well received by Charlemagne, the reigning monarch. The French were reckoned at this period the most valiant and polite people in Europe; so that this exile proved of great service to Egbert. He continued at the court of France till he was recalled by the nobility to take possession of the kingdom of Wessex. This recall was occasioned by the following accident. Brithric, the king of Wessex, had married Eadburga, natural daughter of Uffa king of Mercia; a woman infamous for cruelty and incontinence. Having great influence over her husband, she often persuaded him to destroy such of the nobility as were obnoxious to her; and where this

expedient failed, she herself had not scrupled to become their executioner. She had mixed a cup of poison for a young nobleman, who had acquired a great share of her husband's friendship: but, unfortunately, the king drank of the fatal potion along with his favorite, and soon after expired. By this and other crimes Eadburga became so odious to the people, that she was forced to fly into France, whence Egbert was at the same time recalled, as above-mentioned. Egbert ascended the throne of Wessex in 799. He was the sole descendant of those conquerors who first invaded Britain, and who pretended to derive their pedigree from the god Woden. But though this circumstance might have given him great advantages in attempting to subdue the neighbouring kingdoms, Egbert for some time gave them no disturbance; but turned his arms against the Britons in Cornwall, whom he defeated in several battles. He was recalled from his conquests in that country, by hearing that Bernulf, king of Mercia, had invaded his dominions. Egbert quickly led his army against the invaders, whom he totally defeated at Ellendun in Wiltshire. He then entered their kingdom on the side of Oxfordshire with an army, and at the same time sent his eldest son Ethelwolf with another into Kent. The young prince expelled Baldred, the tributary king of Kent, and soon made himself master of the country. The kingdom of Essex was conquered with equal ease; and the East Angles, who had been subjected by the Mercians, joyfully put themselves under the protection of Egbert. Bernulf himself marched against them, but was defeated and killed; and Ludecan his successor met with the same fate two years after. These events facilitated the reduction of Mercia. Egbert gained an easy victory over a dispirited and divided people; but to engage them to submit with the less reluctance, he allowed Wiglif, their countryman, to retain the title of king, whilst he himself exercised the real power of a sovereign. Northumberland was in a state of anarchy; and this tempted Egbert to carry his victorious arms into that kingdom also. The inhabitants, being desirous of living under a settled form of government, readily submitted, and owned Egbert for their sovereign, who thus became the first monarch of England, A. D. 827.

BRITAIN, NEW, North America. See LABRADOR.

BRITAIN, NEW, a considerable island in the South Pacific Ocean, discovered by Dampier, and situated at the eastern extremity of Papua or New Guinea, from which it is separated by the straits of Dampier. New Ireland is a long island, situated to the east of New Britain. The general aspect of the island is woody and mountainous, it is apparently well peopled, and enlivened with beautiful streams and fruitful valleys. Cocoa nuts, yams, ginger, and other roots, are among its productions. Several volcanoes, in this and in the circumjacent islands, indicate their origin; but none of them have been accurately described. The Admiralty Islands are a group to the north-west. Lat. between 4° and 6° 50' S. and long. between 148° 20', and 151° 20' E. See NEW GUINEA.

BRITANNIA, in ancient geography, Great Britain and all the islands belonging to it.

BRITANNIA MINOR, the ci-devant province of Brittany, or Bretagne, in France.

BRITANNIC PLAGUE, a name given by some writers to the Anglicanus sudor, or sweating disease.

BRITANNICA, in the botany and materia medica of the ancients, the name of a plant described as having leaves of a dark color, very large, and in shape resembling those of the common wild-dock, but somewhat hairy and of an astringent taste; the root small and slender, and the stalk not large. This is the description of Dioscorides, who attributes to its inspissated juice great virtues as an astringent, and a remedy for ulcers of the mouth and tonsils; and Pliny acquaints us of its prodigious efficacy in a distemper attending the army of Germanicus, who, when they had crossed the Rhine, encamped in a place where there was only one spring of water, the drinking of which affected them in a terrible manner in their mouths, and made their teeth drop out; and that the physicians, who called the disease stomacace and scelotybe, were at length directed to the herb Britannica, as a remedy, by the Frisians who were in their camp. The virtues attributed to this plant are observed, by later physicians, to agree with those of the hydrolopathum majus, or great water-dock, a plant produced very abundantly with us, but at present neglected in the practice of physic; and Muntingius, who has written professedly of the Britannica of the ancients, is persuaded that this is the genuine plant; which appears extremely probable.

BRITANNICUS, son of the emperor Claudius by Messalina, was excluded from the empire after his father had married Agrippina; who put her son Nero on the throne, and caused Britannicus to be poisoned, A. D. 55.

To BRITE, *v. n.* } Barley, wheat, or hops,
To BRIGHT. } are said to *brite*, when they grow over-ripe.

BRITOMARTIS, in mythology, a daughter of Jupiter, who threw herself into the sea, to avoid the pursuit of Minos.

BRITTANY, or BRETAGNE, a ci-devant province of France, 150 miles in length and 112 in breadth; anciently called Armorica. It is a peninsula, surrounded on all sides by the ocean except on the east, where it joined Anjou, Maine, Normandy, and Poitou. It was divided into the upper and lower. The natives carry on great trade, by the many harbours on its coast. It was united to the crown of France in 1532, and abounds in large forests. Some authors suppose that Great Britain was first peopled from Brittany. It is now divided into five departments. See BRETAGNE.

BRITTLE, } Goth. *brita*, Islan. *bríota*,
BRITTLÉNÉS, } Swed. *bryta*, Sax. *brytan*. To break; to divide; frangible; easily broken.

On *brotel* ground they bilde; and *brotelnesse*,
They finden, whan they wenen sicknesse.

Chaucer's Canterbury Tales.

Neither precious stones, nor durefull brasse,
Nor shining gold, nor mouldring clay it was;

But yet more rare and precious to esteeme,
Pure in aspect, and like to chrystall glass,
Yet glass was not, if one did rightly deeme;
But being fair and brittle likest glass did seeme.

Spenser.

A wit quick without brightness, sharp without brittleness.
Ascham's Schoolmaster.

The wood of vines is very durable; though no tree hath the twigs, while they are green, so brittle, yet the wood dried is extremely tough.
Bacon.

If the stone is brittle, it will often crumble, and pass in the form of gravel.
Arbutnot.

From earth all came, to earth must all return,
Frail as the cord, and brittle as the urn.
Prior.

It is but life

In stronger thread of brighter colour spun,
And spun for ever; dipt by cruel fate
In Stygian dye, how black, how brittle, here!
How short our correspondence with the sun!

Young's Infidel Reclaimed.

For had you laid this brittle ware

On Dun, the old sure-footed mare.
Gay.

She deemed the window-frames and shutters brittle,
Against a daring house-breaker or sprite,
And so she thought it prudent to contract her
With a vice-husband, chiefly to protect her.

Byron. Beppo.

BRITTLÉNÉS. Brittle bodies are extremely hard; a very small percussion exerts a force on them equivalent to the greatest pressure. This effect is particularly remarkable in glass suddenly cooled, the brittleness of which is thereby much increased. Tin, though in itself tough, gives a brittleness to all the other metals when mixed therewith. The brittleness of glass has been said to arise from the heterogeneity of the parts whereof it is composed, as salt and sand can never bind sufficiently together: but this cannot be the case; for the pure calces of metals, or any other simple substances when vitrified, become brittle also. In timbers, brittleness seems to be connected with durability; the more brittle any sort of wood is, the more durable it is found. Thus oak is of very long duration; while beech and birch, being tough, presently rot, and are of little service in building.

BRITTON (Thomas), the famous musical small coal-man, was born at Higham Ferrers in Northamptonshire. He served his time in London, where he set up in a stable, next door to the little gate of St. John of Jerusalem, on Clerkenwell-green, which he converted into a house. Here becoming acquainted with Dr. Gareniers, his neighbour, he became an excellent chemist, and constructed a movable laboratory which was much admired by all who saw it. His skill in music was noways inferior to that in chemistry, either in the theory or practice; he had for many years a well frequented musical club, meeting at his own little cell; and was well respected and known by persons of the first quality; being, above all, a valuable man in his moral character. In Ward's account of clubs, we are told, that 'Britton's was first begun, or at least confirmed, by Sir Roger L' EStrange, a very musical gentleman.' This meeting was the first of the kind, and gave rise to some of the most celebrated concerts in London. Ward says, a concert was performed in his own house, which is thus described. 'On the ground floor

was a repository for small coal: over that was the concert room, which was very long and narrow; and had a ceiling so low, that a tall man could but just stand upright in it. The stairs to this room were on the outside of the house, and could scarcely be ascended without crawling. The house itself was very old and low built, and in every respect so mean as to be a fit habitation only for a very poor man.' This mansion, despicable as it may seem, attracted to it as polite an audience as ever the opera did. Here Dr. Pepusch, Handel, Bannister, Henry Needler, and other capital masters, were performers. At the first institution of the club, Britton would receive no gratuity whatever from his guests, and was offended whenever any was offered him. According to some, however, he departed from this; and the rules were, that Britton should find the instruments, the subscription be 10s. a year, and the company have coffee at a penny a dish. The singularity of his character, the course of his studies, and the collections he made, induced suspicions that Britton was not the man he seemed to be. Among other groundless conjectures, his musical assembly was thought by some to be only a cover for seditious meetings; by others, for magical purposes; and Britton himself was taken for an atheist, a Jesuit, &c. The circumstances of his death are not less remarkable than those of his life. There lived near him one Samuel Honeyman, a blacksmith, who became famous as a ventriloquist, and Robe, an acquaintance of Britton's, was foolish enough to introduce this man to the latter, for the sole purpose of terrifying him. He succeeded but too well: Honeyman, without moving his lips, or seeming to speak, announced, as from afar off, the death of Britton within a few hours, with an intimation that the only way to avert his doom was for him to fall on his knees immediately, and say the Lord's prayer: the poor man not only did this, but went home, took to his bed, and in a few days died. This happened in September, 1714. Britton left behind him a large collection of books, music, and musical instruments. Of the former, Sir Hans Sloane was a considerable purchaser. His collection of music, mostly pricked by himself, sold for nearly £100. In the British Museum there is a painting of him taken from the life. A mezzotinto print was taken from this, for which Mr. Hughes (author of the siege of Damascus, and a frequent performer at Britton's concerts,) wrote the following lines:—

Tho' mean thy rank, yet in thy humble cell,
Did gentle peace and arts unpurchased dwell;
Well pleased, Apollo thither led his train,
And music warbled in her sweetest strain.
As fables tell, Cyllenius and Jove,
Came thus as guests to poor Philemon's grove.

BRIVA ISARÆ, in ancient geography, a town of Gallia Belgica on the river Isara or Oise; now called Pontoise.

BRIVATES, in ancient geography, a port of Gallia Celtica; now called Brest.

BRIXELLUM, in ancient geography, a town of Gallia Cispadana; remarkable for being the

place where Otho killed himself after the battle of Bedriacum: now called Bresello.

BRIXEN (the Sublavo of the ancients), the capital of a district, formerly a bishopric, of the Tyrol, of the same name, situated to the south of the Brenner Mountains, in the midst of hills and vineyards, and at the confluence of the Rientz and Eysach. This place is well built, and the houses, which are painted, are adorned with piazzas, and diversified by several spacious squares. The palace of the bishop is in appearance mean, though capacious and well built. In the cathedral there are several paintings by the first Tyrolese masters, and particularly by the Unterbergers. There are six other churches, of which the Benedictine church is the finest. The town is governed by its own magistrates, viz. two burgomasters, and two counsellors. The mineral waters in the neighbourhood are much frequented; and at Klausen, about three leagues from Brixen, is a fine collection of paintings in the convent of Capuchins. The principal article of commerce is the red wine of the surrounding country. The district altogether contains about 375 square miles, and a population of 27,000 persons. It was ceded to Bavaria in 1806, and restored to Austria in 1815 with the rest of the Tyrol. It contains three towns and numerous villages.

BRIZA, in botany, quaking grass: a genus of the digynia order, and triandria class of plants. Natural order, fourth, gramina: CAL. two-valved and multiflorous; the spicula bifarious: COR. two valved, the valves heart-shaped, blunt; seeds growing to the corolla, depressed. Species seven, natives of Europe, and several of our own country; especially 1. *B. minor*, with triangular seven-flowered spikelets. 2. *B. media*, with ovate seven-flowered spikelets, both found in our meadows and pastures.

BRIZE-VENTS, shelters used by gardeners who have not walls on the north side, to keep cold winds from damaging their beds of melons. They are enclosures about six or seven feet high, and an inch or more thick; made of straw, supported by stakes fixed in the ground, and props across, both inside and outside, fastened either with willow twigs, or iron wire.

BROACH, *v. & n.* } Goth. *brodde*, Swed. *brodd*, Welsh *bruyd*, Fr. *broche*. A spit, a tap, a point, a breast ornament. Hence, to spit, to pierce as with a spit, to tap a vessel, by piercing it in order to draw the liquor; to open any store; to let out, or utter any thing.

Were now the general of our gracious empress,
As in good time he may, from Ireland coming,
Bringing rebellion *broached* upon his sword.

Shakspeare.

This error, that Pison was Ganges, was first *broached* by Josephus.

Raleigh.

There is much pride and vanity in the affectation of being the first *broacher* of an heretical opinion.

J. Estrange.

Men have got a fashion now-a-days, that two or three busy bodys will take upon them the name of the world, and *broach* their own conceits, as if they were a general opinion.

Bacon.

He was taken into service to a base office in his kitchen; so that he turned a *brouch*, that had worn a crown.

Id. Henry VII.

Whose offered entrails shall his crime reproach,
And drip their fatness from the hazle *brouch*.

Dryden.

Those who were the chief instruments of raising the noise, made use of those very opinions themselves had *brouched*, for arguments to prove that the change of ministers was dangerous.

Swift's Exam.

BROACH, BROCHA, BROCHE, or BROTCHE, in Scotland, is the name of a utensil, or rather ornament, which the Highlanders use, like the fibula of the Romans, to fasten their vests. They are usually made of silver; of a round figure; with a tongue crossing its diameter, to fasten the folds of the garment, sometimes with two tongues, one on each side of a cross bar in the middle. There are preserved in several families, ancient broaches of very elegant workmanship, and richly ornamented. Some of them are inscribed with names, to which particular virtues used to be attributed; others are furnished with receptacles for relics, supposed to preserve from harm. So that these broaches seem to have been worn not only for use and ornament, but for amulets. One or two of this sort are figured and described by Mr. Pennant, in his *Tour in Scotland*, i. 90. iii. 14., edit. 3.

BROACH, with hunters, the start of a young stag's horn.

BROACH, a district and town of Hindostan, in the province of Gujerat, situated between the twenty-first and twenty-third degrees of northern latitude, and bounded on the west by the gulf of Cambay. It is one of the best cultivated and most populous territories on the west coast of India, and celebrated for the production of cotton. It was ceded to the British by the Mahrattas in 1803, with the exception of three small districts, which are the private estate of the peishwa. The river Nerbuddah runs through the centre of it; on an island in this river stands the largest tree in the world: 7000 persons it is said have stood under its shade.

BROACH, the capital of the above district, supposed to be the Barygaza of the ancients, is a place of considerable trade, and situated on the north bank of the Nerbuddah river, about twenty-five miles from the sea. It was twice taken by the British, viz. in 1772 and 1803, and remains still in our possession. Here is an hospital for criminals, supported by voluntary contributions among the Hindoos.

BROAD',
BROAD'EN,
BROAD'ISH,
BROAD'LY,
BROAD'NESS,
BROAD'SIDE,
BROAD'-AXE,
BROAD'-CLOTH,
BROAD'-EYED,
BROAD'-LEAVED,
BROAD'-SHOULDERED,
BROAD'-SWORD,
BROAD'-WISE,

Goth. *braid*, Swed. *bred*, Sax. *brad*, Teut. *breit*, Belg. *breed*, Per. *burdur*. Wide extended, open. It is opposed to narrow, distinguished from long, and is applied to space in the sense of width; to objects in the sense of bulk and dimensions; to any thing clear, open, uncon-

cealed. Figuratively, to what is gross, coarse, obscene, unreserved, bold, and indelicate.

Gret was the prees that swarmed to and fro
To gauen on this hors that stondeth so;
For it so high was and so *brod* and long,
So wel proportioned for to be strong,
Right as it were a stede of Lumbardie.

Chaucer's Canterbury Tales.

Who can speak *broad*er than he that has no house
to put his head in? Such may rail against great
buildings.

Shakspeare.

In despite of *broad-eyed* watchful day,
I would into thy bosom pour my thoughts:
But, ah! I will not.

Id.

The weeds that his *broad* spreading leaves did
shelter

Are pulled up, root and all.

Id.

The mobile are still for levelling; that is to say,
for advancing themselves: for it is as *broad* as long,
whether they rise to others, or bring others down to
them.

L'Estrange.

From vaster hopes than this he seemed to fall,
That durst attempt the British admiral:
From her *broad sides* a ruder flame is thrown,
Than from the fiery chariot of the sun.

Waller.

As chaste and modest as he is esteemed, it cannot
be denied, but in some places he is *broad* and fulsome.

Dryden.

I have used the cleanest metaphor I could find, to
palliate the *broadness* of the meaning.

Id.

Of all your knowledge this vain fruit you have,
To walk with eyes *broad* open to your grave.

Id.

If open vice be what you drive at,

A name so *broad* we'll ne'er connive at.

Id.

Narrow and *broad-leaved* cyprus grass.

Woodward on Fossils.

He, in fighting a duel, was run through the thigh
with a *broad-sword*.

Wiseman.

It no longer seeks the shelter of night and darkness,
but appears in the *broadest* light.

Decay of Piety.

The top may be justly said to grow *broad*er, as the
bottom narrower.

Temple.

The *broadest* mirth, unfeeling folly wears,
Less pleasing far than virtue's very tears.

Pope.

If one should, with his hand, thrust a piece of iron
broadwise against a flat ceiling of his chamber, the
iron would not fall as long as the force of the hand
perseveres to press against it.

Boyle.

I am a tall, *broad-shouldered*, impudent, black fellow; and,
as I thought, every way qualified for a rich
widow.

Spectator.

Thus, a wise taylor is not pinching,
But turns at every seam an inch in;
Or else, be sure, your *broad-cloth* breeches
Will ne'er be smooth, nor hold their stitches.

Swift.

Low walks the sun, and *broadens* by degrees,
Just o'er the verge of day.

Thomson.

BROAD PIECE, a denomination given to certain gold pieces broader than a guinea, particularly caroluses and jacobuses.

BROAD RIVER, a river or arm of the sea, on the east coast of North America, which extends along the west and north-west sides of Beaufort or Port Royal island, on the coast of South Carolina, and receives the river Coosa from the north-west. This may likewise be called an arm of the sea; its waters extend north-westward, and meet those of Broad river round a small island at the mouth of Coosa Hatchee river. The two embrace all the islands between Combahee river and Dawfuskee sound, with which also Broad river communicates. Channels be-

tween Broad river and Coosa form the islands. The entrance through Broad river to Beaufort harbour, one of the best in the state, is between Hilton's Head and St. Philip's Point.

BROAD-STAIRS, a hamlet of St. Peter's, Isle of Thanet, Kent, distant from Ramsgate two miles north, on the sea-shore, is seventy-five miles east from London. It is chiefly to be noticed as a fashionable and retired resort for sea-bathing. Here are the remains of an ancient gateway, which appears to have been part of some fort of the coast. The bathing machines, and public rooms, are on the same construction as those at Ramsgate; and on the cliff is a good library. It has a small pier, at which light vessels load and deliver their cargoes. The parish church of St. Peter is a handsome gothic structure, a mile distant; the steeple is remarkable for a crack from the top to the bottom, occasioned by the shock of an earthquake, 1580.

BROAD-SWORD, a sword with a broad blade, chiefly designed for cutting; not much used in the British service, except in some few regiments of cavalry and Highland infantry. Among the cavalry, this weapon has in general given place to the sabre.

BROCADE, $\left\{ \begin{array}{l} \text{Fr. } \textit{brocade, Ital. } \textit{broccata,} \\ \text{BROCA'DED. } \left\{ \begin{array}{l} \text{from } \textit{brooch, see } \textit{BROOCH; silk} \\ \text{or stuff variegated with gold or silver embroidery.} \end{array} \right. \end{array} \right.$

I have the convenience of buying and importing
rich brocades. Spectator.

Or stain her honour, or her new brocade;
Forget her prayers, or miss a masquerade. Pope.

Should you the rich brocaded suit unfold,
Where rising flowers grow stiff with frosted gold. Gay.

BROCADE, or **BROCADO**, a stuff of gold, silver, or silk, raised and enriched with flowers, foliages, and other ornaments, according to the fancy of the merchants or manufacturers. Formerly the word signified only a stuff, wove all of gold, both in the warp and in the woof, or all of silver, or of both mixed together; thence it passed to those of stuffs in which there was silk mixed, to raise and terminate the gold or silver flowers; but at present all stuffs, even those of silk alone, whether they be programs of Tours or of Naples, sattins, and even taffeties or lustrings, if they be but adorned and worked with some flowers or other figures, are called brocades.

In manufacturing brocades, the flattened gilt wire is spread on threads of yellow silk, approaching as near as may be to the color of gold itself. The wire, winding off from a bobbin, twists about the thread as it spins round; and by means of curious machinery, too complex to be described here, a number of threads are thus twisted at once by turning one wheel. The principal art consists in so regulating the motion, that the several circumvolutions of the flattened wire on each side may just touch one another, and form, as it were, one continued covering. It is said, that at Milan there is made a sort of flattened wire gilt only on one side, which is wound upon the thread, so that only the gilt side appears; and that the preparation of this wire is kept a secret,

and has been attempted in other places with little success. There is also a gilt copper wire, made in the same manner as the gilt silver. Savary observes, that this kind of wire, called false gold, is prepared chiefly at Nuremberg; and that the ci-devant ordinances of France required it to be spun, for distinction from the gilt silver, on flaxen or hempen threads. One of our writers takes notice, that the Chinese, instead of flattened gilt wire, use slips of gilt paper, which they both interweave in their stuffs and twist upon silk threads: this practice he inconsiderately proposes as a hint to the British weaver. But, whatever be the beauty of stuffs of this kind of manufacture, it is obvious that they must want durability. The Chinese themselves, according to Du Halde's account, sensible of this imperfection, scarcely use them any otherwise than in tapestries, and such other ornaments as are not intended to be much worn, or exposed to moisture. The Venetians have carried on a large trade to the Levant, in a kind of brocade called domasquete, which, though it has only about half the quantity of gold or silver as that made among us, looks far more beautiful. The flattened wire is neither wound close together on the silk threads, nor the threads stuck close in the weaving; yet by passing the stuff betwixt rolls, the disposition and management of which is kept a secret, the tissue or flower is made to appear one entire brilliant plate of gold or silver. The French ministry, judging this manufacture worthy of public attention, engaged the ingenious Mr. Vaucanson, to contrive the machinery; a gentleman well known for his curious pieces of mechanism.

This gentleman, in the memoirs of the Academy for 1757, gives an account of his success, and of the establishment of this manufacture at Lyons. The lower roll is made of wood, thirty-two inches in length and fourteen in diameter; the upper one of copper, thirty-six inches long and eight in diameter. This last is hollow, and open at one end, for introducing iron heaters. For making the roll cylindrical, he has a particular kind of lathes, wherein the cutting tool, which the most dexterous hand could not guide in a straight line through such a length as thirty-six inches, is made to slide by means of a screw, on two large steel rulers, perfectly straight, and capable of being moved at pleasure, nearer, and always exactly parallel to the axis of the roll. He first disposed the rolls nearly as in the common flattening mill. In this disposition, ten men were scarcely sufficient for turning them with force enough to extend the gilding duly; and the collars, in which the axis of the rolls turned at each end, wore so fast, that the pressure continually diminished, insomuch that a piece of stuff of ten ells, had the gilding sensibly less extended on the last part than on the first. He endeavoured to obviate this inconvenience by screwing the rolls closer and closer in proportion as the stuff passed through, or as the wearing of the collars occasioned more play between them; but this method produced an imperfection in the stuff, every turn of the screw making a sensible bar across it. To lessen the attrition, each end of the axis, instead of a collar, was made to turn between three iron cylinders, called friction

wheels; but even this did not answer fully, for now another source of unequal pressure was discovered. The wooden roll being compressible, had its diameter sensibly diminished: it likewise lost its roundness, so that the pressure varied in different points of its revolution. On trying different kinds both of European and Indian woods, all the hard ones split, the soft ones warped without splitting, and of more than twenty rolls, there was not one which continued round for twenty-four hours. These failures put him upon contriving another method of pressing the rolls together, so that the force should always accommodate itself to whatever inequalities might happen. The axis of the copper roll being made to turn between friction-wheels as before, that of the wooden one is pressed upwards by a level at each end, furnished with a half collar for receiving the end of the axis. Each lever has the end of its short arm supported on the frame of the machine, and the long arm is drawn upwards by an iron rod communicating with the end of the short arm of another lever placed horizontally. To the long arm of this lever is hung a weight, and the levers are so proportioned, that a weight of 30 lbs. presses the rolls together with a force equivalent to 17,536 lbs. which was found to be the proper force for the sufficient extension of the gilding. By this contrivance, four men can turn the rolls with more ease than ten can turn those which are kept together by screws; and the same weight acting uniformly in every part, the pressure continues always equal, though the wooden roll should even become oval, and though the stuff be of unequal thickness. A piece of cloth, of about two ells, is sewed to the beginning and end of the stuff, to keep it out to its width when it enters and parts from the rolls, which could not be done by the hands for fear of burning or bruising them; as it would take too much time to sew these cloths to every small piece of an ell or two, a number of these are sewed together. The stuff is rolled upon a cylinder, which is placed behind the machine, and its axis pressed down by springs to keep the stuff tight as it comes off. Four iron bars, made red hot, are introduced into the copper roll, which in half an hour acquires the proper degree of heat or nearly such an one as is used for the ironing of linen; the wooden roll is then laid in its place, and the machine set to work. If more than thirty ells are to be passed at once, the wooden roll must be changed for another, for it will not bear a long continuance of the heat without danger of splitting; and therefore the manufacturer should be provided with several of these rolls, that when one is removed, another may be ready to supply its room; as soon as taken off from the machine, it should be wrapt in a cloth, and laid in a moist place. The principal inconvenience attending the use of this machine, is, that the heat necessary for extending the gilding, though it improves the brightness of white and yellow silks, is injurious to some colors, as crimson and green. A double pressure will not supply the place of heat; and the only method of preventing this injury, of rendering it as light as possible, appeared to be, to pass the stuff through with great celerity.

To clean brocades neither alkalies nor soap must be used; because the former, while they clean the gold, corrode the silk, and change or discharge its color; and the latter also alters the shade, and even the species, of certain colors. But spirit of wine may be used without any danger of its injuring either the color or quality of the subject; and in many cases proves as effectual for restoring the lustre of the gold as the most corrosive detergents. A rich brocade, flowered with a variety of colors, after being disagreeably tarnished, had the lustre of the gold perfectly restored by washing it with a soft brush dipped in warm spirit of wine, and some of the colors of the silk which were likewise soiled, became at the same time remarkably bright and lively. Spirit of wine seems to be the only material adapted to this intention, and probably the boasted secret of certain artists is no other than this spirit disguised. Dr. Lewis says he does not know of any other that is of sufficient activity to discharge the foul matter, without being hurtful to the silk. As to powders, however fine, and however cautiously used, they scratch and wear the gold, which here is only superficial, and of extreme tenuity.

BROCARDICA, **BROCARDICS**, denote maxims or principles in law; such as those published by Azo, under the title of *Brocardica Juris*. Vossius derives the word from the Greek *πρωταρχια*, q. d. first elements. Others, with more probability, from Burchard, or Brochard, bishop of Worms, who made a collection of canons, hence called *Brocardica*; and as this work abounded much in sentences and proverbs, the appellation was extended to similar works.

BROCATEL, or **BROCADEL**, a kind of coarse brocade; chiefly used for tapestry.

BROCATELLO, a name given by lapidaries to the white and gold-veined red marble.

BROCCOLI, *n. s.* Ital. A species of cabbage.

Content with little, I can piddle here

On *Broccoli* and mutton round the year;

But ancient friends, tho' poor or out of pay,

That touch my bell, I cannot turn away. *Pope.*

BROCCOLI. See **BRASSICA**.

To BRO'CHE. See **To BROACH**.

So Geoffry of Boullion, at one draught of his bow,
shooting against David's tower in Jerusalem, *broached*
three feeble birds. *Camden.*

BROCHOS, in surgery, a name used by some writers for bandages in general: in some of the old writers, the same word is also used for a person who has a very prominent upper lip, or teeth, and a thick mouth.

BROCK, *?* Dan. *brook*, Sax. *broc*, Fr.

Brock'sh. *broc*, Ital. *bureo*, apparently from Goth. *brak*, *brok*, a scream, a yell; a badger. Skinner suggests from *to break*, because this animal breaks and bruises with most severe biting. *Brockish* seems to mean beastly, brutal.

Or with pretence of chasing thence the *brock*,

Send in a cur to worry the whole flock. *Jonson.*

BROCKLESBY (Richard), M. D., was of an Irish family, but born in 1722, at Minehead, in Somersetshire. He was educated at Ballytofe, in the north of Ireland, under the same master

with Mr. Burke, though not a school-fellow of that statesman. He afterwards went to Edinburgh, and thence to Leyden, where he took his degree of M. D. in 1745. Soon after, he settled in London, and in 1751 was admitted a licentiate of the College of Physicians. Having obtained a diploma from Cambridge, he became, in 1756, a fellow of the college; and in 1758 was appointed physician to the army, in which capacity he served in Germany during the seven years' war. In October 1760 he was made physician to the hospitals for the British forces, and returned home a little before the conclusion of the peace of 1763. He now acquired in the metropolis an extensive practice, and a general acquaintance with the literary characters and statesmen of the age. Among others he was in terms of close intimacy with Dr. Johnson, and attended him in his last illness. Dr. Brocklesby is characterised in Boswell's Life of Johnson, as a man whose reading, knowledge of life, and good spirits, supplied him with a never-failing source of conversation; and several letters, addressed to him from Dr. Johnson, are preserved in that work. One trait of his character is omitted, however, which does him great honor. Believing that Johnson wished, in the latter part of his life, to remove to the continent for his health, and knowing the benefits that might accrue to him from that measure, Dr. Brocklesby made him an offer of an annuity of £100 during the remainder of his life; and, when this was declined, pressed him to reside in his house, as more suited to his health than the one in which he then lived. In the same noble spirit he transmitted £1000 to Burke, as a legacy he had intended leaving him, but which he thought would be of more use to him in his life time. Dr. Brocklesby died suddenly in 1797. His works are: 1. *Dissertatio de Saliva Sana et Morbosa*, 4to. 2. *Essay concerning the Mortality of Horned Cattle*, 8vo. 3. *Eulogium Medicum, sive Oratio Anniversaria Harveiana*, 1760, 4to. 4. *Economical and Medical Observations tending to the improvement of Medical Hospitals*, 2 vols. 8vo. 5. *Account of a Poisonous Root found mixed with Gentian*. *Phil. Trans.* n. 486. 6. *Case of Diabetes*, *Med. Observ.* 7. *Experiments on Seltzer-water*, ib. 8. *Case of Encysted Tumor of the Eye*, ib. 9. *Dissertation on the Music of the Ancients*.

BRODÆUS, or BRODEAU (John), a great critic, on whom Lipsius, Scaliger, and Grotius, have bestowed great encomiums, was descended from a noble family in France, and born at Tours in 1500. He was liberally educated, and placed under Alciat to study the civil law; but he gave himself up wholly to languages and the belles lettres. He travelled into Italy, where he became acquainted with Sadoleto, Bembo, &c. and applied himself to the study of mathematics, philosophy, and the sacred languages, in which he made no small proficiency. Then, returning to his own country, he led a retired, but not an idle, life, as his many learned works abundantly testify. He was a man free from all ambition, and ostentation, and suffered his works to be published rather under the authority of others than under his own. His chief works are: 1.

A Commentary on the Anthologia. 2. Ten Books of Miscellanies. 3. Notes on Oppian, Euripides, &c. He died in 1563.

BRODERA, a town of Hindostan, in the province of Gujerat, and district of Champoueer, the capital of a Mahratta chief's dominions, called the Guicowar, who is one of the British allies. His revenues are but moderate, and generally collected by an armed force. His territories adjoin Broach, and he is principally supported by the British.

BRODIATORES, in the middle age, a kind of librarii, or copyists, who did not write the words and letters plain, but variously flourished and decorated, after the manner of embroidery.

BRODIUM, a term used by some writers in pharmacy, for a liquor in which any solid substance has been boiled, is to be preserved, or with which a medicine too strong for use alone is to be diluted.

BRODY, a town in the circle of Brody or Zloczow, Austrian Galicia, situated on the borders of the Russian government of Volhynia. It is a trading place of consequence, containing a castle, four parish churches, 2000 Christian inhabitants, and no less than 13,000 Jews. It carries on an extensive commerce with Moldavia, Walachia, the Crimea, and other parts of Turkey and Russia, receiving in return for Polish merchandise, the horses, black cattle, wax, honey, tallow, skins, fur, anise, and fruit, produced in these and other countries. The Jews here are in the habit of frequenting the principal fairs of Germany; and at Brody is a central synagogue.

BRO'GUE. *Ital. brog, bruac, Wel. bro-aeg*, from *bro*, country, and *aeg*, speech. Thus it signifies a country accent, particularly of the Irish. It is also applied to a shoe made of raw leather. *Ir. bro given*, a country shoe; *Wel. gwintas*, shoes.

His *brogue* will detect mine. *Furquhar.*

I thought he slept; and put

My clouted *brogues* from off my feet, whose rudeness
Answered my steps too loud. *Shakspeare.*

Sometimes it is given out, that we must either take these halfpence, or eat our *brogues*. *Swift.*

But what vexed me most was that d——d Scottish
rogue

With his long-winded speeches, his smiles, and his
brogue. *Goldsmith.*

BROID', } *Goth. broda; Dan. brode;*
BROID'ER, } *Welsh, brodiaw; Fr. brodir,*
BROID'ERY, } *from Goth. brodde, a point.*
BROID'ERS. } See BROCADE. To adorn with
figures in needle-work; flower-work; ornaments
wrought upon cloth; to braid, knit, wreath, or
interweave.

A robe, and a *broidered* coat, and a girdle.

Erodus.

Of rubies, sapphires, and of perles white,
Were all his clothes *broided* up and down,
For he in gemmes gretly gan delight.

Chaucer's Canterbury Tales.

Infant Albion lay

In mantles *broidered* o'er with gorgeous pride.

Tickell.

The golden *broidery* tender Milkah wove,

The breast to Kenna sacred, and to love,

Lie rent and mangled.

Id.

BROIL', *v. & n.* } Fr. *brouiller*, *brusler*; Ital.
 BROIL'ER, } *brustolare*, from *brāzō*;
 BROIL'ING, } Goth. *brasa*, *brasta*. See
 BROIL'MAKER. } BREEZE. To roast on the
 fire; to grill; to be in a heat. Met. a tumult;
 a quarrel.

Where have you been *broiling*?

— Among the crowd i' the' abbey, where a finger
 Could not be wedged in more. *Shakspeare.*

Say to the king thy knowledge of the *broil*,
 As thou didst leave it. *Id.*

Their *broiling* heads can bear no other sounds,
 Than fleets and armies, battels, blood, and wounds.

Marvell.

He has sent the sword both of civil *broils*, and
 public war, amongst us. *Wake.*

Some strip the skin, some portion out the spoil,
 Some on the fire the reeking entrails *broil*. *Dryden.*

BROKE', *v.* } Of uncertain etymology.
 BRO'KAGE, } Skinner seems inclined to de-
 BRO'KER, } rive it from to break, because
 BRO'KERAGE, } broken men turn factors or
 BRO'KERLY, } brokers. Casaubon, from *πρᾶ-
 BRO'KERY. } τειν*. Skinner thinks, again,
 that it may be contracted from procurer. Mr. Lye
 more probably deduces it from Sax. *bruccan*, to
 be busy. To transact business for others, or by
 others. Brokage, is the gain gotten by procuring
 bargains; the hire given for any unlawful office;
 dealing in old and second-hand goods; transact-
 ing business by commission.

He woeth hire by menes and *brokage*,
 And sworn he wolde ben hire owen page.

Chaucer's Canterbury Tales.

Yet sure his honesty

Got him small gaine, but shameless flattery,
 And filthy *brokage*, and unseemly shifts,
 And borrow base, and some good ladies gifts.

Spenser.

In chusing for yourself, you shewed your judgment;
 Which being shallow, you shall give me leave
 To play the *broker* in mine own behalf. *Shakspeare.*

Redeem from *broking* pawn the blemished crown,
 Wipe off the dust that hides our sceptre's gilt. *Id.*

He does, indeed,

And *brokes* with all that can, in such a suit,
 Corrupt the tender honour of a maid. *Id.*

Court officers as used the next place took,
 And followed F—x, but with disdainful look;
 His birth, his youth, his *brokage*, all dispraise,
 In vain, for always he commands that pays.

Marvell.

Brokers, who, having no stock of their own, set up
 and trade with that of other men; buying here and
 selling there, and commonly abusing both sides, to
 make out a little paltry gain. *Temple.*

Some South-sea *broker*, from the city,
 Will purchase me, the more's the pity;
 Lay all my fine plantations waste,
 To fit them to his vulgar taste. *Swift.*

So much as the quantity of money is lessened, so
 much must the share of every one that has a right to
 this money be the less; whether he be landholder,
 for his goods; or labourer, for his hire; or merchant,
 for his *brokage*. *Locke.*

BRO'KEN } The past tense and past
 BRO'KENLY, } participle of the verb to
 BRO'KENNESS, } break. Interrupted; irre-
 BRO'KENHEARTED, } gular; disjointed; crush-
 BRO'KENMEAT, } ed: fragments without any
 BRO'KENWIND. } regular series.

He hath sent me to bind up the *brokenhearted*.

Isaiah.

To other woundes, and to *broken* armes,
 Some hadden salves, and some hadden charmes,
 And farmacies of herbes.

Chaucer's Canterbury Tales.

Preserve men's wits from being *broken* with the
 very heat of so long attention. *Hooker.*

Yet would not let their battell so be *broken*,
 Both greedy fiers on other to be wroken. *Spenser.*
 Sir Richard Hopkins hath done somewhat of this
 kind, but *brokenly* and glancingly; intending chiefly
 a discourse of his own voyage. *Hakewill.*

Get three or four chairwomen to attend you constantly
 in the kitchen, whom you pay at small charges;
 only with the *broken meat*, a few coals, and all the
 cinders. *Swift.*

Had we never loved so kindly,

Had we never loved so blindly,

Never met, or never parted,

We had ne'er been *brokenhearted*. *Burns.*

BROKEN-BACKED, in sea language, denotes
 the state of a ship which is so impaired, and
 loosened in her frame, as to droop at each end;
 a disorder to which the French ships are most
 exposed on account of their length, &c.

BROKERS, in common, are of three kinds;
 exchange-brokers, stock-brokers, and pawn-
 brokers:

EXCHANGE BROKERS, are a sort of negotiators
 who contrive, make, and conclude bargains be-
 tween merchants and tradesmen, in matters of
 money or merchandise, for which they have a
 fee or premium. These, in old English law-
 books, are called *broggers*, and in Scotland,
broccarii, i. e. according to Skene, mediators or
 intercessors in any contract, &c. They make it
 their business to know the alteration of the course
 of exchange, to inform merchants of it, and to
 notify to those who have money to receive or pay
 abroad, who are proper persons for negotiating
 the exchange with; and when the matter is ac-
 complished, that is when the money is paid, they
 have a *brokage* per £100 sterling. These by
 statute 8 and 9 William III. are to be licensed
 in London by the lord mayor, who gives them
 an oath, and takes bond for the faithful execution
 of their offices. If any person shall act as broker
 without being thus licensed and admitted, he
 shall forfeit the sum of £500, and persons em-
 ploying him £5; and brokers are to register con-
 tracts, &c. under the like penalty: also brokers
 shall not deal for themselves, on pain of forfeit-
 ing £200. They are to carry about with them a
 silver medal, having the king's arms and the
 arms of the city, and pay forty-shillings per year
 to the chamber of the city.

In France, till the middle of the seventeenth
 century, their exchange brokers were called *cour-
 tiers de change*; by an arret of council in 1639,
 the name was changed for that more creditable
 one of *agent de change*, *banque*, et *finance*; and
 in the beginning of the eighteenth century, to
 render the office still more honorable, the title of
 king's counsellor was added. At Grand Cairo,
 and several places of the Levant, the Arabs, who
 do the office of exchange brokers are called *consul-
 snis*; the manner of whose negotiating with the
 European merchants has something in it so very
 particular, that we refer it to a distinct article.

See **CONSUL**. The exchange brokers at Amsterdam, called *makelders*, are of two kinds; the one like the English, called *sworn brokers*, because of the oath they take before the *burgomasters*; but the others negotiate without any commission, and are called *walking-brokers*. The Jews, Armenians, and Banians, are the chief brokers throughout most parts of the Levant and the Indies. In Persia all affairs are transacted by a sort of brokers whom they call *delal*, i. e. great talkers; and who, after they have launched out into long, and often impertinent discourse, in coming to a conclusion converse only with their fingers.

INSURANCE or POLICY BROKERS are agents who transact the business of insurance between the merchant or party insured and the underwriters or insurers. These insurance brokers, from the nature of their employment, ought to be, and indeed generally are, persons of respectability and honor, and in whom confidence may be safely reposed. To the broker the merchant looks for the regularity of the contract, and a proper selection of responsible underwriters; and to him, also, the underwriters look for a fair and candid disclosure of all material circumstances affecting the risk, and the payment of their premiums. There is usually an open account between each broker, and every underwriter with whom he has much dealing. In this account the broker makes himself debtor to the underwriter for all premiums, and takes credit for all losses to which the underwriter is liable, and which the broker is authorised to receive. Indeed, it is generally understood, that, by the usage of trade in London, the underwriters give credit only to the broker for their premiums, and can resort only to him for payment; and that he alone, and not the underwriters, can recover the premiums from the insured. This point, however, has never been settled by a judicial determination. But though the underwriter thus looks to the broker for his premium, and though the broker in his account with the underwriter takes credit for the losses and returns of premiums, which he is authorised to receive from the underwriter, yet such losses are not to be regarded as a debt from the underwriter to the broker. In the case of the bankruptcy of a policy broker, the Court of King's Bench (23 Geo. III.) held that though credit for the premiums must be given to the broker, because the underwriters know nothing of the principals; yet, that they could not set off the losses or returns of premium due to the principals, and which they only could sue for, against a debt due from the defendants to the bankrupt. In this case the defendants had no commission *del credere*. In a subsequent case, where the action was brought by the assignees of an underwriter against the factor, it was ruled that no general authority in relation to a ship or goods, will make a man an agent for the purpose of insuring, on behalf of the parties interested. He must either have express directions from the principal to cause the insurance to be made, or else it must be a duty evidently arising from the nature of his correspondence. However, though one man cannot, in general, compel another against his consent to become

an agent for procuring an insurance to be effected for him, there are three cases in which an order to insure must be complied with: as first, where an agent has effects of his principal in his hands; secondly, where he has been in the practice of making insurances, and has given no notice to discontinue; and thirdly, where he accepts bills of lading sent him on condition to insure.

If a merchant in this country accept an order from his correspondent abroad to cause an insurance to be made, but limits the broker to too small a premium, in consequence of which no insurance can be effected, he is liable to make good the loss to his correspondent; for though it is his duty to get the insurance done at as low a premium as possible, yet he has no right so to limit the premium, as to prevent the insurance from being effected. And even a voluntary agent, who has no prospect of remuneration for his trouble, is liable, provided that he takes any step in the business.

In an action against an agent, or broker, whether for negligence or unskilfulness in effecting an insurance, the plaintiff is entitled to recover to the same amount as he might have recovered against the underwriters, if the policy had been properly effected. But he can only recover what, in point of law, he might have recovered on the policy; and not what the indulgence or liberality of the underwriters might probably have induced them to pay. In such an action the agent may avail himself of every defence, such as fraud, deviation, non-compliance with warranties, &c. which the underwriters might have set up in an action on the policy; but if the agent act in the usual manner it will be deemed sufficient.

There are many reasons why an agent or broker ought not to be an insurer. He becomes too much interested to settle with fairness the rate of premium, the amount of partial losses, &c.

If an agent or broker meaning to appropriate the premium to himself, and take the chance of a safe arrival, represent to his employer that an insurance has been effected agreeably to his instructions, the principal may maintain trover for the policy against the agent or broker; and, upon proof of a loss, he shall recover to the same amount as he would have been entitled to recover against the underwriters. See **INSURANCE**.

STOCK BROKERS are those who are employed to buy and sell shares in the joint stock of a company or corporation, or more particularly in the public funds. As the practice of stock-jobbing, and dealing in the stocks in various ways, has become very extensive, the legislature has thought fit to bring it within certain bounds, and under particular regulations. The negotiations, &c. of these brokers are regulated by statute 6 Geo. I. cap. 13, and 7 and 10 Geo. II. cap. 8, which, among other things, enact that all premiums to deliver or receive stock, all contracts in the nature of wagers, &c. incur a penalty of £500, and the sale of stock, of which the seller is not possessed, a forfeit of £100. No money shall be given to compound any difference for not delivering or transferring stock. Persons buying, on refusal or neglect of the seller to transfer at the day, may buy the like quantity of

stock, of any other person, and recover the damage of the first contractor. But this act not to hinder lending money on stocks, or contracts for re-delivering or transferring thereon, so as no premium be paid for the loan more than legal interest. Brokers shall keep a book, in which all contracts, with their dates, and the names of the parties concerned, shall be entered, on pain of £50.

An agreement to invest or replace stock at a certain time, in consideration of money actually paid or advanced equivalent to the value of the stock at the time of such payment or advance, is valid; and not usurious, nor within the statute. 8 East's Rep. 304: but all jobbing in omnium is. In an action on this statute, the contract laid in the declaration was to deliver stock on the 27th of February: the contract proved was to deliver stock on the settling-day, which at the time was fixed for, and understood by the parties to mean, the 27th of February: Held, that the proof supported the declaration. *Wickes v. Gordon*, *Term Rep. K. B. Hil. 59 Geo. 3.* 385. It is notorious, however, that the most wholesome provisions of the law are daily evaded in a 'certain house': though men highly honorable in their conduct, and very useful to the public, are found there.

BROKERS, PAWN. See PAWNBROKERS.

BROKERS OF FURNITURE, &c. See APPRAISERS.

BROMA, from *βρωσκω*, to eat; food of any kind that is masticated; not drank.

BROMBERG, a government and town of the grand duchy of Posen, Prussia. The former contains about 4450 square miles, and 222,000 inhabitants, consisting of Poles, different Christian Germans, and a few Jews. The soil is but indifferent.

The town stands on the river Brahe, and by means of the canal, which joins the Brahe with the Netze, near this place, enjoys a small trade. The length of this canal, which is a work of great importance to this part of the country, is about twenty-eight miles. It is thirty miles north-west of Thorn, and contains 5000 inhabitants. A treaty of peace was concluded here in 1657, between the king of Poland and the elector of Brandenburg.

BROME (Alexander), a poet and attorney, in the reign of Charles II., was the author of the greatest part of those songs and epigrams which were published in favor of the royalists, during the protectorate. These, together with his epistles and epigrams, translated from different authors, were all printed in one volume, octavo, after the Restoration. He also published a version of Horace, by himself and others. He left behind him a comedy, entitled the *Cunning Lovers*; and the world is indebted to him for two volumes of Richard Brome's plays, in 8vo. He died in 1666.

BROME (Richard), a dramatic writer who lived in the reign of Charles I., and was contemporary with Decker, Ford, Shirley, &c. He was originally a servant to the celebrated Ben Jonson. He left fifteen comedies behind him, ten of which were collected together by ALEXANDER BROME, which see.

BROMELIA, in botany, the pine-apple; a genus of the monogynia order, hexandria class

of plants, ranking, in the natural method, under the tenth order, coronariæ, Linnæus enumerates seven species, of which the following are the most remarkable:—

I. *B. ananas*, with leaves very like some sorts of aloes, but not so thick and succulent, which are strongly armed with black spines. From the centre of the plant rises the flower-stalk, which is near three feet high; the lower part is garnished with entire leaves, placed alternately at every joint; the upper part with flowers set in a loose spike or thyrse quite round: these are succeeded by oval seed-vessels, having a longitudinal partition, in the centre of which are fastened smooth cylindrical seeds. There are six varieties, viz. 1. *B. ananas glaber*, with small leaves. 2. *B. ananas lucidus*, with very smooth, shining, grass-green leaves. 3. *B. ananas ovatus*, the oval-shaped pine-apple. 4. *B. ananas pyramidalis*, the pyramidal or sugar-loaf pine. 5. *B. ananas serratinus*, with a yellowish colored flesh. And 6. *B. ananas viridis*, the green pine-apple.

II. *B. lingulata*, with obtuse, sawed, and prickly leaves.

III. *B. nudicaulis*, with the lower leaves indented and prickly. The leaves of this species are shorter than those of the ananas. They are sharply sawed on their edges, and of a deep green color. The flower stem arises from the centre of the plant, which divides upward into several branches: the upper part of these are garnished with spikes of flowers, which come out alternately from the sides of the branches, each having a narrow entire leaf just below it, which are longer than the spike. The flowers are placed very close on the spikes; and when they decay the empalement turns to an oval-pointed seed-vessel, enclosing seeds of the same shape with the other.

The *bromelia ananas ovatus* is the most common in Europe; but the *ananas pyramidalis* is much preferable, the fruit being larger and better flavored; the juice of this sort is not so astringent as that of the first, so that it may be eaten in greater quantity with less danger. It frequently produces suckers immediately under the fruit, whereby it may be increased much faster than the common sort. The *ananas glaber* is preserved by some curious persons for the sake of variety; but the fruit is not worth anything. The *ananas lucidus* was raised from the seeds taken out of a rotten fruit which came from the West Indies to the late Henry Heathcote, Esq., from whom Mr. Miller received one plant, which produced large fruit: this is what the people of America call the king pine. The plants are propagated by planting the crowns which grow on the fruit, or the suckers which are produced either from the sides of the plants or under the fruit; both which are found to be equally good; although by some persons the crown is thought preferable to the suckers, as supposing it will produce fruit sooner than the suckers, which is certainly a mistake. The suckers and crowns must be laid to dry in a warm place for four or five days, or more (according to the moisture of the part which adhered to the old plant or fruit); for if they are immediately planted they will

rot. The certain rule of judging when they are fit to plant, is by observing if the bottom is healed over and become hard; for if the suckers are drawn off carefully from the old plants they will have a hard skin over the lower part, and so need not lie so long as the crowns of those whose bottoms are moist. But whenever a crown is taken from the fruit, or suckers from old plants, they should be immediately divested of their bottom leaves, so high as to allow depth for their planting, so that they may be thoroughly dry and healed in every part, lest when they receive heat and moisture they should perish, which often happens when this method is not observed. If these suckers or crowns are taken off late in autumn, or during winter, or early in spring, they should be laid in a dry place in the stove for a fortnight or three weeks before they are planted; but in summer they will be fit for planting in a week at farthest. These should be planted in a rich good kitchen-garden mould, not too heavy so as to detain the moisture too long, nor over light and sandy; but where this is wanting, some fresh earth should be procured from good pasture, which should be mixed with about a third part of rotten neats' dung, or the dung of an old melon or cucumber bed which is well consumed, six or eight months before they are used, but if it be a year it will be better; and the mixture should be often turned that their parts may be the better united, and the clods well broken. The earth should not be sifted very fine; for if it is only cleared of the great stones it will be better for the plants than when it is made too fine. Always avoid mixing any sand with the earth, unless it be extremely stiff, and then it will be necessary to have it mixed at least six months or a year before it is used; it must be frequently turned that the sand may be incorporated in the earth so as to divide its parts: but do not put more than a sixth of sand; for too much sand is very injurious to the plants. In summer they must be frequently watered; but not with large quantities at a time; and the moisture should not be detained in the pots by the holes being stopped, for that will soon destroy the plants. If the season is warm they should be watered twice a-week, but in a cool season once a-week will be sufficient; and in summer they should once a-week be watered gently all over the leaves; which will greatly promote their growth. Some frequently shift these plants, but unless the pots be filled with the roots by the time the plants begin to show their fruit, they commonly produce small fruit, which have generally large crowns; therefore the plants should not be new potted oftener than twice in a season. The first time should be about the end of April, when the suckers and crowns of the former year's fruit (which remained all the winter in these pots in which they were first planted), should be shifted into larger pots, i.e. those which were in half-penny or three farthing pots should be put into penny or at most three-half-penny pots, according to the size of the plants, for we must not over-pot them, nothing being more prejudicial. The second time for shifting is in the beginning of August; when those which are of a proper size

for fruiting the following spring should be put into two-penny pots, which are full large enough for any of these plants. At each time of shifting the bark-bed should be stirred up, and some new bark added, to raise the bed up to the height it was at first made; and, when the pots are plunged again into the bark-bed, the plants should be watered gently all over the leaves, to wash off the filth, and to settle the earth to the roots of the plants. If the bark-bed be well stirred, and a quantity of good fresh bark added to the bed at this latter shifting it will be of great service to the plants, for they may remain in the same tan until the beginning of November, or sometimes later, according to the mildness of the season, and will require but little fire before that time. During the winter they will not require to be watered oftener than once a-week, according as the earth in the pots seems to dry. Plants beginning to show fruit should never be shifted, for if they are removed after the fruit appears it stops the growth, and thereby causes the fruit to be smaller, and retards its ripening; so that it will be October or November before the fruit is ripe; therefore the plants should be kept in a vigorous growing state from the first appearance of the fruit, as upon this depends the goodness and the size of it, for if they receive a check after this the fruit is generally small and ill tasted. After cutting off the fruit from the plant intended to be propagated, the leaves should be trimmed, and the pots plunged again into a moderate hot-bed, observing to refresh them frequently with water, which will make them put out suckers in plenty; so that one may be soon supplied with plants enough of any of the kinds, who will but observe to keep the plants in health. The most dangerous thing that can happen to these plants is their being attacked by small white insects, which appear at first like a white mildew, but soon have the appearance of lice; these attack both root and leaves at once; and, if not soon destroyed, they will spread over a whole stove in a short time, and in a few weeks entirely stop the growth of the plants by sucking out the nutritious juice, so that the leaves will appear yellow and sickly and have a number of yellow transparent spots all over them. These insects, after they are fully grown, appear like bugs, adhering so closely to the leaves as not to be easily washed off, and seem to have no locomotion. They were originally brought from America upon the plants imported thence; and are probably the same insects which have destroyed the sugar-canes in some of the Leeward Islands; for, upon some sugar-canes which were sent from Barbadoes, great numbers of these insects were observed. Since they have been in England, they have spread greatly in stoves where there has not been extraordinary care taken to destroy them. They have also attacked the orange-trees in many gardens near London, and have done them incredible damage; but, as they do not endure the cold of our winter, they are never found on such plants as live in the open air. The only method yet discovered of destroying them is, by frequently washing the leaves, branches, and stems, of such plants as they attack, with water in which there has been a strong in-

fusion of tobacco stalks. But this method cannot be practised on the aranas plants, because the insects fasten themselves so low between the leaves, that it is impossible to come at them with a sponge to wash them off; so that, although they seem to be all cleared off, they are soon succeeded by a fresh supply from below, and the roots are also equally infected. The safest method therefore, whenever they appear, is to take the plants out of the pots, and clear the earth from the roots; then put them into a tub, filled with water in which there has been a strong infusion of tobacco-stalks, and lay some sticks across to keep them immersed in the water, in which they should remain twenty-four hours; then take them out, and with a sponge wash off all the insects from the leaves and roots, and wash the plants in a tub of fresh water. After this, you should put them in fresh earth; and having stirred up the bark-bed, and added some new tan to give it a fresh heat, the pots should be plunged again, observing to water them all over the leaves, and this should be repeated once a-week during summer; for these insects always multiply much faster where the plants are kept dry than when they are sometimes sprinkled over with water, and kept in a growing state. Mr. Nicol found the following method answer perfectly, in a case where the plants were greatly affected:—Having prepared a strong heat for the plants, in the bark-bed of the nursing pits, he shook out and cut every fibre from their roots, whereby they were rendered the same as suckers at first, not excepting those that were in fruit, some of which were just in flower; dipped them into a liquor prepared by boiling two pounds of soft soap and flower of sulphur, with one pound of roll tobacco, and two ounces of nux vomica, in eight gallons of water to six; put them into pots of six inches diameter, and plunged them to the brims; kept up a fire heat to about 75°, gave them but little air, shading them in sunshine, and afterwards gave them plentiful waterings over head with the same mixture, reduced to about half its former strength. He continued this treatment for two whole months; at the end of which he again shook out their roots, and washed the whole plants in pure water, put them into fresh pots of eight inches diameter, and replunged them into a kindly heat in another nursing pit, treating them in all respects as any other plants. He never saw a vestige of the bug afterwards; a few of those plants that were shown, however, died, but the others, he observed, produced such fruit as might be expected from plants of such sizes of any other kind.

As these insects are frequently brought over from America on the ananas plants, those who procure their plants from that country should look carefully over them when they receive them, to see they have none of these insects on them; for if they have they will soon be propagated over all the plants in the stove where they are placed; therefore, whenever they are observed, the plants should be soaked before they are planted into pots.

Of late some considerable improvements have been made in the culture of the pine. Oak leaves have been substituted for the more expensive

bark; and the pines are found to thrive as well, and to produce as good fruit as the others. The proper way of managing these leaves, for rearing exotic plants, will be found under the article *OAK LEAVES*. But the most considerable improvement is that mentioned in the sixty-seventh volume of the Philosophical Transactions, where the following method is shown by William Bastard, Esq., of Devonshire, of raising these fruits in water:— ‘Before I enter into the particulars of raising pine-apples in water, it will be necessary to tell you that my hot-house is covered with the best crown glass, which I apprehend gives more heat than the common sort of green glass generally used in hot-houses. In the front part of the house, and indeed anywhere in the lowest part of it, the pine-apple will not thrive well in water. The way in which I treat them is as follows:— I place a shelf near the highest part of the back wall, that the pine plants may stand without absolutely touching the glass, but as near it as can be: on this shelf I place pans full of water, about seven or eight inches deep; and in these pans I put the pine-apple plants, growing in the same pots of earth as they are generally planted in, to be plunged into the bark-bed in the common way, that is, I put the pot of earth, with the pine plant in it, in the pan full of water, and as the water decreases I constantly fill up the pan. I place either plants in fruit, or young plants as soon as they are well rooted, in these pans of water, and find they thrive equally well: the fruit reared this way is always much larger as well as better flavored than when ripened in the bark-bed. I have more than once put only the plants themselves without any earth, I mean after they had roots, into these pans of water, with only water sufficient to keep the roots always covered, and found them flourish beyond expectation.— In my house, the shelf I mention is supported by irons from the top, and there is an intervening space of about ten inches between the back wall and the shelf. A neighbour of mine has placed a leaden cistern upon the top of the back flue (in which, as it is in contact with the flue, the water is always warm when there is fire in the house,) and finds his fruit excellent and large. My shelf does not touch the back flue, but is about a foot above it; and consequently only warmed by the air in the house. Both these methods do well. The way I account for this success is, that the warm air always ascending to the part where this shelf is placed, as being the highest part of the house, keeps it much hotter than in any other part. The temperature at that place is I believe seldom less than what is indicated by 73° of Fahrenheit’s thermometer, and when the sun shines is often above 100°: the water the plants grow in seems to enable them to bear the greatest heat, if sufficient air be allowed; and I often see the roots of the plants growing out of the holes in the bottom of the pot of earth, and shooting vigorously in the water. My hot-house (the dimensions of which it may be proper to know) is sixty feet long and eleven wide, the flues included, six feet high in the front and eleven feet at the back of the inside of the house. It is warmed by two fires. A leaden trough or cistern on the top of the back flue is preferable to

my shelf, as in it the pine plants grow much faster in the winter, the water being always warmed by the flue; of this I have seen the great benefit these two last months in my neighbourhood. It is not foreign to this purpose to mention, that, as a person was moving a large pine plant from the hot-bed in my house last summer, which plant was just showing fruit, by some accident he broke off the plant just above the earth in which it grew, and there was no root whatever left to it: by way of experiment I took the plant, and fixed it upright in a pan of water (without any earth whatever) on the shelf; it there soon threw out roots, and bore a pine-apple that weighed upwards of two pounds.'

BROMLEY, a town of Kent, situated on the river Ravensbourn, ten miles from London, on the road to Tunbridge. It has an hospital for twenty clergymen's widows, with an allowance of £30 a-year, and £60 per annum to the chaplain. It has fairs Feb. 14th, and Aug. 5th, and a market on Thursday. Near the town is the palace of the bishops of Rochester, where there is a chalybeate spring, of a quality similar to that at Tunbridge. The manor of this place was granted to the bishop by king Edgar, in the year 700. The church is a very old structure.

BROMUS, broom-grass, in botany: a genus of the dygynia order, and triandria class of plants; natural order, fourth, gramina. The CAL. is bivalved, having a partial spike, oblong and round, opposite grains, with an awn below the point of each outer valve. There are thirty-four species, of which seven are natives of Britain, viz. 1. *B. arvensis*, common broom-grass; 2. *B. ciliatus*, wall broom-grass; 3. *B. giganteus*, tall broom-grass; 4. *B. pinnatus*, spiked broom-grass; 5. *B. ramosus*, wood broom-grass; 6. *B. secalinus*, field broom-grass; 7. *B. sterilis*, barren broom-grass.

BROMYARD, a market town of Herefordshire, near the Frome, seated on a rising ground. It has five fairs: market on Monday. It is eighteen miles west of Worcester, and 125 W.N. W. of London.

BRONCHIAL ARTERIES. See ANATOMY.

BRONCHOCELE, DERBYSHIRE NECK. This disease is marked by a tumor on the forepart of the neck, and seated between the trachea and skin. In general it has been supposed principally to occupy the thyroid gland. It is a very common disorder in Derbyshire, and amongst the inhabitants of the Alps, and other mountainous countries bordering thereon. The cause which gives rise to it, is by no means certain; but it is commonly attributed to the water of the place. The swelling is generally without pain, or any evident fluctuation; but when the disease is of long standing, and the swelling considerable, it is a very difficult matter to effect a cure by medicine, or any external application; and it is dangerous to attempt its removal with a knife, on account of the enlarged state of its arteries.

Although relief has been occasionally obtained by blisters, mercurial plasters, &c. yet the best mode of cure is to exhibit internally burnt sponge, in the form of a lozenge; every night for three weeks, one of the troches should, when the patient is in bed, be put under the tongue,

suffered to dissolve gradually, and the solution swallowed. The disgust at first arising from this remedy soon wears off. Sulphuretted potassa dissolved in water, in the proportion of thirty grains to a quart daily, is a remedy which has been employed by Dr. Richter with success. The sodæ subcarbonas, being the basis of burnt sponge, is now frequently employed instead of it, and, indeed, it is a more active medicine.

BRONCHOTOMY, in surgery, from *βρογχος* and *τεμνω*; is the operation of cutting into the trachea or wind-pipe. This may be practised with greater or less chance of success, in cases where a patient is in danger of suffocation, from an obstacle in the trachea, or a constriction of the glottis. Also where the trachea is compressed by a tumor externally, or where the tonsils and parts adjacent become so enlarged as to impede respiration. In short, should any mechanical cause be supposed to exist, of threatening suffocation and impending death, the surgeon's duty will be too plain and imperious to admit of hesitation: an incision must be made into the trachea without a moment's delay, unless some other obvious remedy can be suggested for the patient's restoration.

The following has been recommended as one of the best modes of performing it:—The patient is placed upon a low stool, or in that posture in which he finds it most easy to breathe; his head is held upright, but by no means bent backwards, and secured by an assistant. Opposite the third or fourth cartilaginous ring of the trachea, the skin is now drawn up into a high cross fold; and it is cut through exactly at the middle of the trachea, to such a depth, that when the fold is let go, the incision extends itself longitudinally from the first cartilaginous ring down to near the upper extremity of the sternum. By making the incision of a proper length, the operation will be greatly facilitated, as its edges can then be drawn farther from each other.

As soon as the hæmorrhage has been entirely stopped, that part of the trachea, where the incision is finally to be made, must be laid bare, by dissecting away the cellular substance and muscular fibres situated about the membranous interstice between the third and fourth ring, and by either entirely removing them or pressing them sideways. The operator then places the nail of the fore-finger of his left hand upon this interstice; and, applying the thumb and middle finger of the same hand to both sides of the trachea, he pushes the point of his instrument, which must previously be dipped in some fresh oil of almonds, along the nail of his fore-finger, through the above-mentioned membranous interstice, between the third and fourth cartilaginous ring, into the trachea. He then applies the fore-finger of his left hand to one or the other of the cartilaginous rings, close to the tube or canula, in order to hold it back whilst he withdraws the blade of his instrument. If we make use of Richter's curved instrument, we must move the hand upwards in pushing it in, in order that we may turn the point of the instrument downwards, and prevent its touching the back part of the trachea.

But in order that we may prevent the tube

from slipping out of the wound, and also to prevent its moving to and fro in the trachea, several dossils are introduced above and below into the wound, so as to keep the lips asunder. To the rings, on both sides of the external opening of the tube, two narrow slips of linen are applied, which press the rings down upon the trachea; and the whole is covered and secured with adhesive plaster. And that none of the fluids which are collected in the wound may make their way into the canula and wind-pipe, the patient must lie or sit inclined on one side, and the wound must, from time to time, be wiped dry with a sponge. When the tube fills with mucus, it must be cleaned with a small feather; or two such tubes may be employed, one enclosing the other, and either of them removed, when necessary, for the purpose of clearing it of mucus.

An improvement upon the instruments employed has been proposed by Mr. Benjamin Bell, or one which has nearly the form of a flat straight trocar, and ought never to be less than two inches in length. Before it is pushed between the two cartilages, it must first be thrust through several linen compresses, which not only serve to cover the pledgit of ointment intended to protect the wound, but also produces the advantage that (by removing one or more of the compresses, which may be done by cutting them open at the sides with a pair of scissors), we are able to increase the length of the tube at pleasure. In order to secure the tube in the situation where it is left after the operation, he passes it through an opening in a plate of polished steel, which is curved so as to fit to the shape of the fore-part of the neck, and fastened behind with straps and a buckle. To prevent any foreign substance from getting through the orifice of the canula into the trachea, it may be covered with a piece of fine gauze, which should previously be wetted, that the dust may not penetrate through it, but stick to the outside. When the cause which gave rise to the operation has been removed, and the patient can again breathe through his mouth, the tube is withdrawn, and the orifice healed up like any other wound of the wind-pipe; in doing which great caution should be used, lest any thing should get into the trachea.

BRONCHUS, the trachea, or wind-pipe. See ANATOMY.

BRONKHORST (John Van), an eminent painter of the seventeenth century, born at Utrecht. He studied under Cornelius Poelenburg, whose style he imitated with great success. He painted both history and landscapes; and his pictures, which are very highly finished, are held in great esteem.

BRONTES, in mythology, one of the cyclops, who was employed by Vulcan to make Jupiter's thunder-bolts.

BRONTES, in entomology, a small species of papilio. The wings are subcaudated and fuscous, with a band on the first pair, and margin of the second snowy white. Found in Africa.

BRONTEUM, in Grecian antiquity, a place underneath the floor of the theatres, in which were kept brazen vessels full of stones and other materials, with which they imitated the noise of thunder.

BRONTEUS, in mythology, an epithet of Jupiter; applied also to Bacchus.

BRONTIÆ, or thunder stones, in natural history. See BELEMNITES.

BRONTOLOGY denotes an explanation of the causes, phenomena, &c. of thunder. See ELECTRICITY and THUNDER.

BRONZE, *v. & n.* Ital. *bronzo*; Fr. *bronze*; Pers. *burinj*, perhaps from Goth. *bruna*; Fr. *brunir*, to burnish; and Lat. *æs*. See BRASS, COPPER COLOR.

Imbrowned with native *bronze*, lo! Henley stands,
Tuning his voice, and balancing his hands. *Pope.*

I view with anger and disdain,
How little gives thee joy or pain;

A print, a *bronze*, a flower, a root,
A shell, a butterfly can do 't. *Prior.*

BRONZE, a compound of copper and tin, to which sometimes other metallic substances, particularly zinc, are added. This metal is brittle, hard, and sonorous. It is employed for making bells, cannons, statues, &c. and the proportions of the metals are varied to suit the several purposes to which it is applied. This compound, like some others, is specifically heavier than either of the metals taken separately. A metallic mass, composed of four-fifths of copper and one-fifth of tin, weighs seven and one-tenth grains more than the same quantities of these two metals would together weigh if not alloyed. This proves, that in the union of copper and tin there is a penetration of parts, the one metal entering into the pores of the other; and this is further confirmed by an observation of Mr. Tillet, member of the Royal Academy of Sciences. In his memoir concerning the ductility of metals, he takes notice, that when the mixture of copper and tin is made in the proportions above mentioned, the color of the copper is entirely annulled and covered by that of the tin, although the quantity of the first be four times greater; and this singular effect cannot be understood without admitting a total change in the size and disposition of the pores of the compound metal. Tin being less subject to rust than copper, bronze is also found to be less liable to be covered with verdigris than pure copper is; and this is one reason why it is used for cannons, statues, and works exposed to the air and weather. The greater fusibility of bronze than copper is also an advantageous property, and much facilitates the casting of large works. The operation of casting large works in bronze is a work of considerable difficulty, and requires much scientific knowledge and great practice. Macquer directs a brick furnace to be erected, nearly in the shape of a baker's oven. The floor of this oven is concave, and consists of a composition of sand and clay; on which the metals are placed. The furnace has four openings. The first is a lateral mouth, at which the flame of the fuel enters. The second is a chimney placed on the side opposite the mouth, by means of which the flame is drawn over the metal. The third opening is a hole, which can be opened or shut at pleasure, to inspect the state of the contents of the furnace. When the metal is in the required state, a fourth aperture is opened, communicating with the hollow floor, through which the metal flows by

channels into the moulds prepared to receive it. These moulds are made on the model of the figure intended to be cast, with a mixture of one part of plaster of Paris, and two parts of brick-dust. The mould is then to be taken from the figure, and lined on the inside with a thin layer of clay, the thickness the bronze is intended to be; the mould is then to be put together, and the cavity within the clay filled with a similar composition to the mould which forms the core, which, if large, must be previously supported by bars of iron. When this is done, the mould is to be taken off, the clay thoroughly cleaned out, and the mould and core completely dried; the mould is then to be placed thereon, and the vacuity formed by the removal of the clay is the channel for the metal, in a state of fusion, which must be properly conducted to it, and care taken that proper vents are left in the mould for the expansion of the air by the heat of the metal. The equestrian statue of Louis XIV. in the Place de Vendôme at Paris, is one of the largest pieces of bronze sculpture ever made. This colossal group contains upwards of 60,000 lbs. weight of bronze. Many fine specimens of ancient bronze, as statues, penates, vessels, &c. are to be seen in the collection of the BRITISH MUSEUM, which see.

BRONZE also denotes a color prepared by the colormen of Paris, wherewith to imitate bronze. There are two sorts, the red bronze and the yellow or golden. The latter is made solely of copper dust, the finest and brightest that can be got; the former is made of the same, with the addition of a little red ochre well pulverised. They are both applied with varnish. To prevent their turning greenish, the work must be dried over a chafing dish as soon as bronzed.

BRONZING, the art or act of imitating bronze, which is done by means of copper-dust or leaf, fastened on the outside, as gold leaves are in gilding.

BRONZITE, a massive mineral of a pseudo-metallic lustre, frequently resembling bronze; structure lamellar, with joints parallel to the lateral planes of a rhomboidal prism; the fragments are streaked on the surface. It is opaque in mass, but transparent in thin plates. White streak; somewhat hard, but easily broken. Specific gravity, 3.2. It is composed of 60 silica, 27.5 magnesia, 10.5 oxide of iron, and 0.5 water. It is found in large masses in beds of serpentine, near Kranbat, in Upper Stiria; and in a syenitic rock in Glen Tilt, in Perthshire.

BROOCH. See BROACH. A jewel; an ornament of jewels.

A broche she bare upon hire low colere.

Chaucer's *Canterbury Tales*.

But, natheles, this markis hath do make

Of gemmes sette in gold and in azure,
Broches and rings, for Grisildes sake. *Id.*

Ay, marry, our chains and our jewels.—

Your brooches, pearl, and owches. *Shakspeare.*

Richly suited, but unseasonable; just like the brooch and the toothpick, which we wear not now. *Id.*

I know him well; he is the brooch, indeed,
And gem of all the nation. *Id.*

BROOD^d, v. & n. } Lat. *incubo*; Belgic,
BROOD^y. } *broedan*; Swed. *brodd*, a
bud; Teut. *brut*; Sax. *brod*, byrd. See BUD,
BRUT, and BRING. To produce young; to hatch;
to set on eggs; to meditate. The noun whence
it is derived, signifies the young of animals, particularly of birds.

And therein sate a ladie passing faire
And bright, that seemed borne of angels brood.

Spenser.

Something's in his soul,
O'er which his melancholy sits on brood;

And I doubt the hatch and the disclose

Will be some danger. *Shakspeare.*

Such things become the hatch and brood of time.

Id.

Ælian discourses of storks, and their affection toward their brood, whom they instruct to fly.

Browne's Vulgar Errors.

It was the opinion of Clinias, as if there were ever amongst nations a brooding of a war, and that there is no sure league but impuissance to do hurt. *Bacon.*

Thou from the first

Wast present, and with mighty wings outspread,

Dove-like sat'st brooding on the vast abyss,

And madest it pregnant.

Milton.

Meanwhile the tepid caves, and fens, and shores,

Their brood as numerous hatch, from the egg that soon

Bursting with kindly rapture forth disclosed

Their callow young. *Id.*

Where brooding darkness spreads her jealous wings,

And the night raven sings. *Id.*

Or any other of that heavenly brood,

Let down in cloudy throne to do the world some good.

Id.

Here nature spreads her fruitful sweetness round,

Breathes on the air, and broods upon the ground.

Dryden.

Defraud their clients, and, to lucre sold,

Sit brooding on unprofitable gold. *Id.*

Of crowds afraid, yet anxious when alone,

You'll sit and brood your sorrows on a throne. *Id.*

I was wonderfully pleased to see the different workings of instinct in a hen followed by a brood of ducks. *Spectator.*

The common hen, all the while she is broody, sits, and leads her chickens, and uses a voice which we call clocking. *Ray.*

Bears, wolves, and all the savage brood,

Have dyed the regal den with blood. *Gay.*

BROOK, v. Goth. *bruka*; Sax. *brucan*; Teut. *brauchen*; Dan. *bruge*; Belgic, *bruiken*. See To BREAK. To accustom, endure, habituate, use; to digest; to enjoy.

Put, for men speke of singing, I wol sey,

(So mote I brouken well mine eyen twey,)

Save you, ne herd I never man so sing

As did your fader in the moorvening.

Chaucer's *Canterbury Tales*.

Even they, which brook it worst that men should tell them of their duties, when they are told the same by a law, think very well and reasonably of it.

Hooker.

He, in these wars, had flatly refused his aid; because he could not brook that the worthy prince Plangus was, by his chosen Tiridates, preferred before him. *Sidney.*

A thousand more mischances than this one

Have learned me to brook this patiently.

Shakspeare.

Heaven, the seat of bliss,
Brook: not the works of violence and war.

Milton.

Restraint thou wilt not *brook*; but think it hard,
 Your prudence is not trusted as your guard. *Dryden.*

BROOK', *n* } Goth. *broka*; Sax. *bruck*; Bel-
 BROOK'Y. } gic, *brock*; Pers. *birku*. A small
 stream; a rivulet.

And to the launde he rideth him full right,
 Ther was the hart ywont to have his flight;
 And over a *brooke*, an so; forth on this wey.

Chaucer's Canterbury Tales.

A substitute shines brightly as a king,
 Until a king be by; and then his state
 Empties itself, as doth an inland *brook*
 Into the main of waters. *Shakespeare.*

Springs make little rivulets; those united make
brooks; and those coming together, make rivers,
 which empty themselves into the sea. *Locke.*

BROOKE (Henry), an Irish writer of some eminence, was born in Dublin, 1706, and educated by Dr. Sheridan. Early in life he entered of the Temple, London, and numbered among his friends, Pope and Swift. On his return to Ireland, he was entrusted with the guardianship of a female cousin, whom he married, and the young lady became a mother before she had attained the age of fourteen. He now returned to London, and wrote *On Universal Beauty*, a poem. After this he practised as a chamber council in Ireland, and wrote his *Gustavus Vasa*, which government would not allow the theatres to perform; thus rendering it so popular, that he obtained a large sum by its publication. He now attached himself to the opposition and the politics of Frederick, prince of Wales; but, finding his means inadequate to his support, returned once more to a life of privacy in Ireland. Here he wrote *The Earl of Westmoreland*, a tragedy, followed by his *Farmer's Letters*, addressed to the people of Ireland, in reward for which the earl of Chesterfield, then lord-lieutenant, made him barrack-master. In 1747 he assisted in Moore's *Fables for the Female Sex*; and produced his *Earl of Essex*, a tragedy, in 1749. In 1762 he wrote a prose vindication of his countrymen, entitled, *The Trial of the Roman Catholics*. But his most celebrated work was *The Fool of Quality*, which appeared in 1766, and attracted, from the first, much attention. He, about this time, became embarrassed, and under the necessity of selling his paternal lands. Shortly after, the loss of his wife, who died at Kildare, gave an irreparable shock to his intellects. He followed her to the tomb in 1783. He wrote some minor pieces, which plainly indicated the approach of his last attack.

BROOKE (James), an ingenious writer, who succeeded the celebrated Wilkes in the publication of the *North Briton*. He was a man of talent, intimate with Johnson, Garrick, Lloyd, Murphy, &c. and the author of a great number of political pamphlets, prologues, epilogues, songs, &c. of temporary interest, but said to have been often very spirited and humorous. The fund of wit and anecdote which he had accumulated, made him a most agreeable companion. He died after a short illness, at the age of eighty, in Rathbone Place, London, 1807.

BROOKE (Mrs. Frances), daughter of the Rev.

Mr. Moore, was a lady as remarkable for her virtues, and her suavity of manners, as for her great literary accomplishments. Her first literary work was the *Old Maid*, a periodical paper, begun in 1755, and collected in one volume, 12mo. The next year she published *Virginia*, a tragedy; and in 1763 came out *Julia Mandeville*, a work concerning which there were various opinions, but which was read with eagerness. The same year appeared *Letters from Juliet*, Lady Catesby, to Lady Campley, translated from the French. She soon afterwards went to Canada with her husband, who was chaplain to the garrison at Quebec; and the romantic characters and scenes which she here found, gave birth to *Emily Montague*, a work which has passed through several editions, and is now not easily met with. On her return to England, accident introduced her to Mrs. Yates, and an intimacy was contracted, which terminated only with the life of that lady. Mrs. Brooke, in consequence of this connexion, formed an acquaintance with Garrick, and wrote some pieces for the stage, which he rejected, and thus incurred the resentment of the authoress, who revenged herself upon the manager in a novel, entitled *The Excursion*. Her next work was the *Siege of Sinope*, a tragedy, introduced by Mr. Harris, but it never became popular. Her next and most popular production was *Rosina*, which she presented to Mr. Harris. Few modern pieces have been equally successful. Her musical piece entitled *Marian*, was next introduced, and exhibited. Mrs. Brooke also translated several books from the French. She was very intimate with Dr. Johnson, Miss Seward, and most of the first characters of her time. She died in January, 1789, two days after her husband, who enjoyed the rectory of Colney in Norfolk, to which he had been preferred after his arrival from America.

BROOKE (Sir Robert), lord chief justice of the common pleas, was the son of Thomas Brooke, Esq. of Claverly, in Shropshire, and educated at Oxford; whence he removed to the middle temple, and soon became a very eminent lawyer. In 1552 he was made serjeant at law; and in 1553, the first of queen Mary, lord chief justice of the common pleas; about which time he was knighted. He was also appointed recorder of London, and speaker of the House of Commons. He died at Claverly in 1558, with the character of an upright judge. His works are: 1. An Abridgment containing an Abstract of the Year-books till the time of queen Mary. 2. Certain cases adjudged in the reign of Henry VIII. Edward VI. and queen Mary. 3. Reading on the Statute of Limitations, 32 Henry VIII. c. 2.

BROOK'LIME, *n. s.* Lat. *becabungæ*. A sort of water speedwell, very common in ditches.

BROOKLYN, a handsome town of Long-Island; pleasantly situated in King's county, opposite New York city. It contains a Presbyterian, and a Dutch Reformed church.

BROOM' *n.* } Teut. *broom*; Sax. *brom*;
 BROOM'Y, } Belgic, *brem*; Goth. *bry*;
 BROOM'LAND, } Welch, *ber*. A point, a
 BROOM'STAFF, } prickle; a shrub; a species
 BROOM'STICK. } of genista. It is applied to a
 besom, because made of twigs of broom.

They fell on; I made good my place; at length
they came to the *broomstaff* with me: I defied 'em
still. *Shakspeare.*

Not a mouse

Shall disturb this hallowed house;

I am sent with *broom* before,

To sweep the dust behind the door. *Id.*

If they came into the best apartment, to set any
thing in order, they were saluted with a *broom*.

Arbutnot.

Even humble *broom* and osiers have their use,
And shade for sheep, and food for flocks, produce.

Dryden.

From the age

The children tread this worldly stage,

Broomstaff or poker they bestride, *Prior.*

And round the parlour love to ride.

Sir Roger pointed at something behind the door,
which I found to be an old *broomstaff*. *Spectator.*

I have known sheep cured of the rot, when they
have not been far gone with it, by being put into
broomlands. *Mortimer.*

If land grow mossy or *broomy*, then break it up
again. *Id.*

When I beheld this, I sighed, and said within my-
self, 'Surely mortal man is a *broomstick*.'

Swift's Meditation on a Broomstick.

BROOM, in botany. See GENISTA.

BROOM, AFRICAN. See ASPALATHUS.

BROOM, BUTCHER'S, in botany. See RUS-
CUS.

BROOM, SPANISH, in botany. See SPAR-
TIUM.

BROOME (William), the coadjutor of Pope in translating the *Odyssey*, was born in Cheshire, of poor parents. He was educated at Eton, and was captain of the school a whole year, by which he might have obtained a scholarship at King's College, had there been a vacancy. He was therefore sent to St. John's College, by the contribution of his friends, where he obtained a small exhibition. He appeared early in the world, as a translator of the *Iliad* into prose, in conjunction with Ozell and Oldisworth; was introduced to Mr. Pope, when visiting Sir John Cotton at Madingley, near Cambridge; and was employed by him to make extracts from Eustathius, for the notes to the translation of the *Iliad*. In the volumes of poetry published by Lintot, commonly called Pope's *Miscellanies*, many of his early pieces were inserted. When the success of the *Iliad* gave encouragement to a version of the *Odyssey*, Pope, weary of the toil, called Fenton and Broome to his assistance; and taking only half the work upon himself, divided the other half between his partners, giving four books to Fenton and eight to Broome. The price at which Pope purchased this assistance was £300 paid to Fenton, and £500 to Broome, which as many copies as he wanted for his friends, which amounted to £100 more. A difference afterwards arose between Pope and Broome, which was carried so far, as to induce the former to give his old friend a place in the *Dunciad*. It has been said that they were afterwards reconciled; but it was peace without friendship. He afterwards published a *Miscellany* of Poems, but never rose to any high dignity in the church. He was some time rector of Sturston in Suffolk, where he married a wealthy widow; and after-

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wards, when the king visited Cambridge, in 1728, became LL.D. He was, in 1733, presented by the crown to the rectory of Pullham in Norfolk, which he held with Oakley Magna, in Suffolk, given him by Lord Cornwallis, to whom he was chaplain, and who added the vicarage of Eye, in Suffolk. He amused himself with translating Odes of Anacreon, which he published in the *Gentleman's Magazine*, under the name of Chester. He died at Bath in 1745.

BROOM FLOWER, KNIGHTS OF THE, (*Ordre de la Geneste*) a ci-devant order of knights, instituted by St. Louis, of France, on occasion of his marriage. The motto was *Exaltat humiles*; and the collar of the order made up of broom flowers and husks, enamelled and intermixed with fleur-de-lys of gold, set in open lozenges, enamelled white, chained together, and a cross florence of gold hung at it. Some speak of another order of the broom, established by Charles Martel, or rather Charles VI.

BROOM GALL, in natural history, a remarkable species of galls found on the common broom; occasioned, like all other galls, by the puncture and eating of an insect. When opened they are found to contain a small oblong worm, of a red color, but whose size requires a glass to see it distinctly. See GALL.

BROOS, or Bros, a free town of Transylvania, well-built, containing a spacious casle, and about 3200 inhabitants. It is one of the seven royal towns of the Saxon settlers, has a seat and vote at the provincial diet, and is inhabited by Saxon Lutherans, and Hungarian Calvinists. There are besides churches for Catholics and Greek Christians; the Calvinists have an academy. The inhabitants rear corn, wine, and fruit. It lies south-west of Weissenburg, near the Marosch.

BRORA, a lake of Scotland, in the county of Sutherland, four miles long and one broad. At two different places it is so much contracted, as to exhibit the appearance of three lakes. It is environed on both sides with lofty mountains, villages, and natural wood. In the middle of it is an island of an oblong square figure, which, tradition says, was artificially constructed on an immense collection of stones brought there on purpose. One half of it was appropriated for lodgings in time of war, and the other laid out for a garden. The walls are still pretty high, and ascend perpendicularly from the surface of the water, without a vestige of the island behind them; and are only accessible by two stairs, which front the south and east, so that with plenty of stores, and the fishing of the loch, abounding with salmon, trout, and eel, the place was impregnable, when properly defended.

BROSCHI (C.), better known by the adopted name of Farinelli, was born in Naples in 1705, and suffered emasculation in consequence of an accident. Obtaining great applause on the Italian theatres, he came to London, and added considerably to his fame and fortune. He then went to Madrid, and gained the favor of Philip V. and his successor, who conferred on him the order of Calatrava. He is said to have been a man of great probity and charity. On the death

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of his patron he retired to Bologna, where he died in 1782.

BROSIMUM, in botany, a genus of class diœcia: order monandria: amentum globular, dotted with orbicular peltate scales: cor. none: male, solitary filament, between the scales; female, cloven style, and one-seeded berry: species two: both Jamaica plants. *B. spurium* is propagated in our own gardens under the name of milk-wood.

BROSME, in ichthyology, a species of gadus, that inhabits the southern seas of Greenland. The mouth is bearded; tail oval, and pointed.

BROSSÆA, in botany, a genus of plants; order monogynia, of the class pentandria. The characters are these: *CAL.* one-leaved perianthium, divided into five segments, each of which terminates in a long point, of the same length with the petals: *cor.* monopetalous, of the shape of a truncated cone, and undivided at the edge: the germen is divided into five parts: the style is pointed, not so long as the flower, and its stigma simple: *PER.* a roundish capsule, divided by five deep furrows into five cells; it is covered with a large cup, which closes over its top; it is succulent and fleshy; and, opening at the sides, discharges a great number of seeds. *Sp. B. coccinea*, Linn. Shrubby, with a scarlet flower and black fruit, Plum. A shrub three or four feet high. Root branched; leaves alternate, petioled, sharply ovate, slightly toothed, smooth, pale green; flowers in racemes at the end of the branches, alternate, peduncled, with two bractea about the middle of the peduncles.

BROSSARD (Sebastian de), an eminent French musician. In the former part of his life he had been prebendary and chapel master of the cathedral church at Strasburg; but afterwards became grand chaplain, and also maitre de chapelle, in the cathedral of Meaux. He published a work entitled *Prodromus Musicalis*; and a very useful book entitled *Dictionnaire de Musique*, printed at Amsterdam, in folio, 1703. He died 1730, aged seventy.

BROSSETTE (Claude), a learned French advocate, born at Lyons in 1671. He was keeper of the public library at Lyons; and published the works of Boileau and Regnier, with historical illustrations. He wrote also *L'Histoire Abregée de la Ville de Lyons*; an elegant and correct work. He corresponded with many eminent literati, particularly Voltaire and Rousseau. He died at Lyons in 1746, aged seventy-three.

BROSSIER (Martha), a French woman, who, about the end of the sixteenth century, pretended to be possessed by the devil, and counterfeited convulsive fits. Her father was a weaver at Romorentin, but found he could gain more, in that credulous age, by exhibiting his daughter as a dæmoniac, than by following his honest and useful profession. She was first detected at Orleans, in 1598; and afterwards at Angers. Notwithstanding which, the credulity of the public was such, and some of the priests acquired so much reputation by exorcising the evil spirit, that Henry IV. enjoined the parliament of Paris to take cognizance of the affair; who,

after a consultation of physicians, ordered the father and daughter to be confined to Romorentin, under pain of corporal punishment. The priests, however, carried the business and the parties before the court of Rome; but the pope, being forewarned by the court of Paris, did nothing contrary to the decision of the parliament. Some of the French priests lost their benefices by their villanous zeal; and the pretended dæmoniac and her father died in deserved contempt in an hospital at Rome.

BROTII, *n. s.* Sax. *broð*. Liquor in which flesh is boiled; but originally any liquid preparation of sodden herbs or meal. See *To Brew*.

You may make the *broth* for two days, and take the one half every day. *Bacon*

Instead of light desserts and luscious froth,
Our author treats to-night with Spartan froth.

Suntherne.

If a nurse, after being sucked dry, eats *broth*, the infant will suck the *broth*, almost unaltered. *Arbutnot.*

BROTH'EL,
BROTH'ER,
BROTH'LING,
BROTH'HOUSES. } From *bordell* by transposition of the letter *r*.
A house of lewd entertainment; a bawdy-house.

Perchance

I saw him enter such a house of sale,
Videlicet, a *brothel*. *Shakespeare.*

Then courts of kings were held in high renown,
Ere made the common *brothels* of the town:
Their virgins honourable vows received,
But chaste as maids in monasteries lived. *Dryden.*

From its old ruins *brothelhouses* rise,
Scenes of lewd loves and of polluted joys. *Id.*
The libertine retires to the stews and to the *brothel*.
Rogers.

BROTH'ER,
BRETH'REN,
BROTHER'HOOD,
BROTHER'LESS,
BROTHER'LIKE,
BROTHER'LOVE,
BROTHER'LY, *adj. & adv.*
BROTHER'BEAST,
BROTHER'FOE,
BROTHER'WRITER, } Goth. *broder*;
Mod. Goth. *brothor*;
Teut. *bruder*; Sax.
brothur; Swed. *broder*;
Dan. *broder*;
Belgic *broeder*; Persian
broder, *birader*;
Heb. *berith*; *φραρυ*;
Slav. Russ. *Bohem.*
bradr, *brath*;

Arm. *braud*; Welsh *brodor*; Irish *bruther*; Lat. *frater*; Ital. Span. Port. *frate*; Fr. *frère*; Goth. *bryd*. *byrd*: *βρω*, a fetus; Welsh *bru*, the womb: Chal. Heb. Per. Syr. *bar*, a child, are all cognates of our verb to bear. See *BRAT*, *BAIRN*, *BIRTH*. A male of children born of the same parents. In a theological sense it is used for the species, for men in general. More commonly it is applied to persons closely united in one object, associated for any common purpose, engaged in similar pursuits and professions; bearing mental, moral, or social resemblance. The adjective expresses kindness; the fondness of a brother.

He also that is slothful in his work, is *brother* to him that is a great waster. *Proverbs.*

I will eat no meat while the world standeth, lest I make my *brother* to offend. *Corinthians.*

In all this mene while, she ne stent
This maide and eke her *brother* to commend
With all hire herte, in ful benigne intent,
So wel that no man coude her priese amend.

Chaucer's Canterbury Tales.

And to those *brethren* sayd, Rise! rise! bylive!
 And unto battell doe yourselves addresse;
 For yonder comes the prowtest knight alive,
 Prince Arthur, flower of grace and nobillesse.

Spenser.

We few, we happy few, we band of *brothers*;
 For he to-day that sheds his blood with me,
 Shall be my *brother*. *Shakspeare.*

I speak but *brotherly* of him; but should I anat-
 omize him to thee as he is, I must blush and weep.
Id.

Be sad, good *brothers*;

Sorrow so royally in you appears,
 That I will deeply put the fashion on. *Id.*

Whilst kin their kin, *brother* the *brother* foils.
 Like ensigns all against like ensigns bend. *Daniel.*

These two are *brethren*, Adam, and to come
 Out of thy loins. *Milton.*

Ah! never could he hope once to repair
 So great a wane, should not that new-born son
 Adopt him both his *brother* and his heir.

Fletcher's Purple Island.

Those tents thou saw'st so pleasant, were the tents
 Of wickedness, wherein shall dwell his race
 Who slew his *brother*. *Milton.*

See how it weeps! the tears do come,
 Sad, slowly, dropping like a gum;
 So weeps the wounded balsam; so
 The holy frankincense doth flow.
 The *brotherless* Heliades
 Melt in such amber tears as these.

Marvell. Wounded Fawn.

The lamest cripples of the *brothers*
 Took oaths to run before all others. *Hudibras.*

He was a priest, and looked for a priest's reward;
 which was our *brotherly* love, and the good of our souls
 and bodies. *Bacon.*

Though more our money than our cause
 Their *brotherly* assistance draws. *Denham.*

There was a fraternity of men at arms, called the
brotherhood of St. George, erected by parliament, con-
 sisting of thirteen of the most noble and worthy per-
 sons. *Davies.*

My father was to Giaffir all
 That Selim late was deemed to thee,
 That *brother* wrought a *brother's* fall,
 But spared—at least, my infancy.

Byron. Bride of Abydos.

BROTHER, a term of relationship applied to a male, among children sprung from the same father, or mother, or both. Scaliger and Vossius derive *frater* from *φρατηρ*, for *φρατωρ*, a person who draws water in the same well; *φρατωρ*, in Greek, signifying a well, and *φρατρια*, a company of people, who have a right to draw water out of the same well. The word, it is said, came originally from Argos, where there were only a few wells distributed in certain quarters of the city, to which those of the same family or neighbourhood alone repaired. Consistently with this derivation, the ancients applied the term *brother* to almost all who stood related in the collateral line, as uncles, nephews, cousins german, &c. Cicero, in his *Philippics*, says, 'Antonia was both wife and sister of Mark Anthony; because she was daughter of his brother C. Antonius;' and Tullus Hostilius, in Dionysius Halicarnasseus, calls the Horatii and Curiatii, *brothers*; because they were sisters' children. The language of the Hebrews was similar, 'We are *brethren*,' says Abraham to Lot, Genesis xiii.

8, whereas Lot was only his nephew. So Jacob told Rachel that he was her father's brother, Genesis xxix. 12, whereas he was only her father's nephew.

BROTHERS, *fratres*, in the civil law, sometimes comprehend sisters: as Lucius and Titia, *fratres*; tres *fratres*, Titius, Mævius, and Seia. By the civil law, *brothers* and sisters stand in the second degree of consanguinity; by the canon law they are in the first degree.—By the Mosaic law the *brother* of a man who died without issue was obliged to marry the widow of the deceased.—Deut. xxv. 7.

BROTHER, FOSTER, those who suck the same nurse. The French call them *freres du lait*, or *brothers of the milk*.

BROTHERS OF ARMS, an appellation given those who contract a kind of fraternity in war, obliging themselves to the mutual service and assistance of each other. In the military orders, the knights are also called *brothers*.

BROTHERS OF DEATH, those of the order of St. Paul, so named from the figure of a death's head which they always had about them.

BROTHERS OF ST. ALEXIS, in the Low Countries, were an order of persons who attended on those who lay dying, and took care of the burial of the dead.

BROTHERS, POOR, in the Chartreuse, or, as it is more commonly called the Charter House, a denomination given to decayed gentlemen, to the number of eighty, who are subsisted with diet, clothing, and lodging, on the establishment. The poor *brothers* are to be gentlemen of descent, come to poverty, or decayed merchants, soldiers, or officers of the king's household. The conditions of admission are, that they have no estate for life worth £200, nor coming in, *viis et modis*, £24 per annum; and that they be fifty years old, unless they have been maimed in the public service; in which case, the age of forty suffices. They wear a livery gown within doors.

BROTHERS, SERVING, *fratres clientes*, a class of knights in the order of Malta, consisting of such as cannot give proof of their nobility.

BROTHEUS, in mythology, a son of Vulcan, said to have been remarkably deformed; and on that account to have thrown himself into the abyss of Mount Ætna.

BROTIER (Gabriel), a learned classic, and French Jesuit, was born in 1723, at Tanay, a small town in the Nivernois. For several years he held the situation of librarian to the college of his order in Paris, and, on its dissolution, retired to the house of M. De la Tour, an eminent printer, where he passed the last twenty-six years of his life; dying at Paris, February 12th, 1789. His principal works are: *Examen de l'Apologie de M. L'Abbé de Prades*, 8vo. 1753; *Conclusions ex universâ Theologiâ*, 4to. 1754; a Treatise on the Ancient Hebrew, Greek, and Roman Coins, 4to. 1760; *Prospectus of an Edition of Tacitus*, in 5 vols. 4to. 1761; an improved edition of the works of that author, in 4 vols. 4to. printed in 1771, and a supplement to the seventh and tenth books of his annals, 8vo. 1775; *Cl. viri de la Caille Vita*, 4to. 1763; an edition of Pliny's Natural History, 6 vols. 12mo

1779; another of Rapin's Poems, On Gardens, to which he subjoined A History of Gardening, 8vo. 1778, and a very complete one of Phædrus, with a comparison between the fables of that writer and those of La Fontaine, 12mo. 1785.

BROTIER (Andrew Charles), a nephew of the above, was also a man of some learning, especially in the science of botany, and published in 1790 a 12mo. volume of *Mémoires*, entitled *Paroles Mémorables recueillies par Gabr. Brotier*. He was for some time editor of *L'Année Littéraire*, a journal during the revolution, but in 1797, becoming obnoxious to the party then in power, was arrested and banished to Cayenne, where he died in 1798.

BROUAGE, a maritime town of France, in the department of the Lower Charente, and c-devant province of Saintonge. It is famous for its salt-works, which are some of the finest in the kingdom. It is fifteen miles S.S.E. of Rochelle, and 170 south-west of Paris. Long. $1^{\circ} 4' W.$, lat. $45^{\circ} 52' N.$

BROUGH, a town in Westmoreland, seated under Stanmore Hill, seven miles from Appleby, and 261 from London. It was formerly a place of great note, being a Roman fortress; but is now much decayed. It contains a neat church, a little distance from the town, in the hamlet of Church-Brough, the pulpit of which is cut out of one entire stone. Near the church are the ruins of an ancient castle, belonging to the Earl of Thanet; part of the tower was standing till 1792, when the greater part fell down. On digging near the ruins, an urn, full of Roman silver coins, was found. On the left of the castle the prospect is closed by a range of craggy mountains, over the tops of which shrubs and trees are promiscuously scattered; to the right is an extensive fertile plain; and behind, the lofty promontory of Wildbore Fell lifts its brow, and terminates the prospect. It is divided into two, the Upper and Lower, and has a market on Thursday, and a fair Thursday before Whitsunday.

BROUGHT. Participle passive of bring.

The Turks forsook the walls, and could not be brought again to the assault. *Knolles.*

The instances brought by our author are but slender proofs. *Locke.*

BROUGHTON (Thomas), a learned divine, and one of the original writers of the *Biographia Britannica*, was born at London July 5th, 1704, in the parish of St. Andrew, Holborn; of which his father was minister. At an early age he was sent to Eton school, where he soon distinguished himself by his acute genius, and studious disposition. He removed about 1722 to the university of Cambridge, where he studied mathematics, under the famous professor Sanderson, and acquired a knowledge of the modern languages. In 1727 he was made A.B. and admitted to deacon's orders. In 1728 he was ordained priest, and took the degree of M.A. when he removed to the curacy of Offley, in Hertfordshire. In 1739 he was instituted rector of Stepington, appointed chaplain to the duke of Bedford, and soon after was chosen reader to the Temple, by which he became known to

bishop Sherlock, who conceived so high an opinion of his merit, that in 1744 he appointed him vicar of Bedminster, and not long after prebendary of Bedminster and Redcliffe. Upon receiving this preferment he removed from London to Bristol, where he married the daughter of Thomas Harris, clerk of that city, by whom he had seven children, six of whom survived him. He resided on his living till his death, December 21st, 1774, in the seventy-first year of his age. In the course of a long life he published: 1. *Christianity Distinct from the Religion of Nature*, 8vo. 2. *Translation of the Mottoes of the Spectator, Tatler, and Guardian*, 12mo. 3. *The first and third Olynthiæ and four Philippics of Demosthenes revised*, 8vo. 4. *The Bishops of London and Winchester on the Sacrament, compared*, 8vo. 5. *Hercules, a musical drama*. 6. *Bibliotheca Historico-sacra, or Dictionary of all Religions*, 2 vols. folio. 7. *A Defence of the commonly-received Doctrine of the Human Soul*, 8vo. 8. *A Prospect of Futurity, in four Dissertations*, 8vo. 1768. He was a great lover of ancient music, which introduced him to the acquaintance of Mr. Handel, whom he furnished with the words for many of his compositions. In 1778 a posthumous volume of sermons, on select subjects, was published by his son, the Rev. Thomas Broughton, A.M. vicar of Twerton, near Bath.

BROUGHTON'S ARCHIPELAGO, an extensive range of rocky islands, islets, and rocks, in an arm of the Pacific Ocean, on the north-west coast of America; so called from Mr. Broughton, commander of the *Chatham*, who discovered them in 1790, in company with Vancouver. Long. $232^{\circ} 56'$ to $233^{\circ} 40' E.$, lat. $50^{\circ} 33'$ to $51^{\circ} N.$

BROUGHTONIA, in botany, class and order, gynandria monandria; natural order, orchideæ. Essential characters: CAL. petals spreading: cor. attached at the base only to the stalked lip: ANTII. a movable lid: masses of pollen four, parallel, divided by complete permanent partitions, and extending at the base into an elastic granulated thread. B. sanguinea, blood-red Broughtonia, a native of Jamaica, is the only known species.

BROUKHUSIUS (Jonas), or John BROEKHUIZEN, a distinguished writer in Holland, was born November 20th, 1649, at Amsterdam, where his father was a clerk to the admiralty. He learned Latin under Hadrian Junius, but his father dying when he was very young, he was placed with an apothecary at Amsterdam, with whom he lived some years. Not liking this profession, he went to the army, where his behaviour raised him to the rank of lieutenant-captain; and, in 1674, he was sent with his regiment to America, in the fleet under admiral de Ruyter, but returned to Holland the same year. In 1678 he was sent to the garrison at Utrecht, where he contracted a friendship with the celebrated Grævius; and here he had the misfortune to be so deeply engaged in a duel, that, according to the laws of Holland, his life was forfeited; but Grævius obtained his pardon from the Stadtholder. Not long after, he became captain of one of the companies then at Amsterdam; which

placed him in an easy situation, and gave him leisure to pursue his studies. His company being disbanded in 1697, a pension was granted him; upon which he retired to a country house near Amsterdam. He died December 15th, 1707. As a classical editor, he is distinguished by his labors upon Propertius and Tibullus, published in 1702 and 1708. A volume of his poems was published at Utrecht, 1684, in 12mo, and an elegant edition of them was given by Van Hoogstraeten at Amsterdam, in 1711, in 4to, who also published his Dutch poems, in 1712, in 8vo. Broukhusius was also editor of the Latin works of Sannazarius and Palearius.

BROUNCKER (William), lord viscount of Castle Lyons, in Ireland, and the first president of the Royal Society, was the son of Sir William Brouncker, and born about 1620. He was distinguished by his knowledge of the mathematics, and by the considerable posts he enjoyed after the Restoration; being chancellor to the queen, and keeper of her great seal, and one of the commissioners of the navy, &c. He wrote: 1. Experiments of the Recoiling of Guns. 2. An Algebraical Paper upon the Square of the Hyperbola; and several letters to archbishop Usher. He died in 1684.

BROUSSON (Claude), an eminent French protestant martyr, born at Nismes, in 1647. He distinguished himself as an advocate at Castres and Toulouse. The deputies of the Protestants assembled at his house after their churches were demolished, and resolved to continue to meet there. The execution of this resolution, however, as might have been expected, occasioned fresh persecutions and massacres. Brousson retired to Geneva, and afterwards to Lausanne; whence he travelled through the different protestant states, soliciting their assistance and compassion to their suffering brethren in France. Returning to France, he ventured to preach in the Cevennes, and in several provinces: in consequence of which, he was apprehended at Oleron in 1698, and, being convicted of having preached in defiance of the edicts, was broken upon the wheel. He was a man of great eloquence and learning, and wrote many works in favor of the Calvinists: particularly *The State of the Reformed in France*; *Letters to the Clergy of France*; *Letters from the Protestants in France to all other Protestants*; and *Remarks upon Amelot's Translation of the New Testament*. The States of Holland gave him a pension of 400 florins; and, upon his death, added 600 more, making 1000 in all, as a pension to his widow.

BROUSSONET (Pierre-Marie-Auguste), professor of botany at the medical school of Montpellier, and also a member of the Institute, as well as an associate of the Royal Society of London &c. was born at Montpellier, February 28th, 1761. We subjoin the following account of him from the eulogium pronounced by the celebrated Cuvier, at the public session of the Institute of France. His father, François Broussonet, was a professor of medicine there, and his mother's maiden name was Elizabeth Senard-Paquier. From the earliest period of his life he exhibited the promise of great talents; for at eighteen years

of age he was nominated to a chair in the university of the city where he was born; at twenty-four he was unanimously elected a member of the Academy of Sciences, a circumstance which had not occurred from the origin of that body; at a later period, he was chosen an associate of the Institute during his absence, and preserved on the list, notwithstanding his residence in the south of France. He was born in the bosom of a celebrated school; he was the son of a man who exercised, in an honorable manner, the functions of his office. Thus the sciences may be said to have surrounded his cradle; and it was their language which he was first taught to utter. With a view to withdraw his mind from the study of nature, to which he was fondly attached, young Broussonet was sent to a distance from his native home to learn the languages; but on his return, with a view of studying medicine, he employed himself in culling plants during the day, and in dissecting at night. In fine, he encumbered his father's house with productions of every kind, while at the same time he made such a rapid progress in medicine, that he obtained the title of doctor of physic at eighteen years of age. The thesis which he chose on this occasion, had respiration for its object, and was entitled, *Variae positiones circa Respirationem*. The excellence of this composition fully justified the premature honors he received, for it exhibits an admirable specimen of comparative anatomy and physiology; while all the known facts are assembled and illustrated with great judgment. Having repaired soon after to Paris, for the express purpose of obtaining the minister's leave to enter on his new professorship, he met with such opposition on account of his youth, that he resigned all ideas on that subject; and, thinking that natural history presented him a field in which he could distinguish himself, he resolved to apply his time and talents to this subject. Although the eloquence of Buffon had inspired a general taste for the study of nature, it had at the same time deterred the greater part of the scholars from the methods most proper to guide them in respect to it: the zoologists and the mineralogists were not as yet familiarised with the commodious nomenclature and rigorous synonymy of Linnaeus. It appeared as if this great man had written for the botanists alone, and all these, becoming his disciples, constituted a separate class: the example of which then had but a feeble influence in respect to the study of the other kingdoms of Nature; but M. Broussonet, incited by the example of the respectable M. Gouan, with an extraordinary zeal for the pure Linnæan doctrine, resolved to render it victorious in France, and accordingly attached his reputation to the fate of this enterprise. As it is in the distinctions of the species, that the methods adopted by the learned Swede exhibit their superiority, and the collection of Paris did not then afford a sufficient variety to serve as the basis of such important labors, Broussonet determined to visit such foreign cabinets as contained the finest specimens. He accordingly directed his course towards England; the universal commerce of which nation, its immense colonies, its grand maritime expeditions, together with the taste of the king, and several of the

grande, for natural history, had enabled it, at that period, to form the richest depositories of the productions of the two worlds. Sir Joseph Banks at this time enjoyed that extensive reputation which will render his name immortal in the history of the sciences; and it was under his immediate protection that Broussonet published the first part of his work on fishes, in 1782, under the title of *Ichthyologia*, decas 1. It contains the Latin description, classed after the Linnæan order, of ten rare kinds, one half of which were before unknown. They were accompanied with an equal number of plates; and constituted, as it were, a fine frontispiece to an important work, which, it is to be greatly lamented, was never continued and completed. At length M. Broussonet returned from London, preceded by the reputation of his new work, decorated with the title of a member of the Royal Society, and reckoning among his friends, the son of Linnæus, Solander, Sparman, Sibthorp, Scarpa, and several other naturalists of the same rank. His devotion to Linnæus would not, at that period, have operated as a recommendation to many who enjoyed great influence in the capital of France, and particularly to Daubenton, who then possessed much credit, both at the Academy and with the ministry; but the mild manners and modest conduct of Broussonet made his profession of faith be forgotten, and he found a most zealous protector in the very man who was considered as likely to be most vexed with his doctrines. Daubenton made him his deputy at the college of France, his assistant at the veterinary school, and also contributed, more than any other, to his reception at the Academy. He now gave notice of his intentions to publish his grand work on ichthyology, and actually presented the prospectus to the public. The distribution was to be nearly on the same plan as that laid down by Linnæus, but he was to describe 1200 species, while the Swede had only enumerated 460. Nearly at the same time, Broussonet read dissertations at the Academy, and gave a description of the dog-fish, of which he mentioned twenty-seven species; one-third of which were unknown to other naturalists. He also treated of the *annarhiscus lupus*, as well as the *silure trembleur*, (*scomber gladius*), first discovered by Adanson to possess the powers of electricity. He next described the spermatoc vessels of fishes, and demonstrated, that several possessed scales which were supposed to be destitute of them. But the most celebrated of all his discourses, was that 'on the comparison between the movements of plants and of animals.' It is to him we are indebted for the first complete description of that vegetable, to which we are most tempted to attribute something voluntary in its oscillations—the *hedysarum gyrans*, or that kind of grass produced in Bengal, the lateral leaves of which rise and fall both day and night, without any external provocation. He also insisted on the determinate volition of the parts of plants, notwithstanding all obstacles; the progress of the roots in search of humidity; the inflexions of the leaves in order to obtain light, &c. In a short time he aimed at still higher objects; and his memoir on the respiration of fishes appertains entirely to the philosophy of natural

history. He shows how much respiration diminishes in respect to intensity, and the blood in regard to heat, from birds to quadrupeds, and from quadrupeds to reptiles; he compares the size of the heart, and the quantity of blood, of different animals; he explains why those who have small bronchial openings can live longer out of water than the others; he mentions the experiments made to demonstrate the degree of heat which fishes are capable of supporting, &c. His paper on the teeth is of a similar nature: the difference between the teeth of flesh-eating and herbivorous animals; the flakes of enamel which penetrate the substance of the latter, and which give them that inequality so necessary for the purpose of trituration; the infinite variety of the number, of the figure, and of the position, of the teeth of animated beings, &c.; in short, all these facts, which are at present notorious to every one, were not then deficient either in novelty or interest. It is to be lamented, that Broussonet should have quitted a career in which he was destined to shine; but, during the same year he was received into the Academy, he happened also to be chosen secretary to the Society of Agriculture; and this first cause of distraction produced many others. Agricultural societies had been established in the different generalities in 1761. Composed, for the most part, either of wealthy proprietors or simple farmers, they had hitherto displayed but little activity in respect to their operations, while that of the capital had only published a few instructions, during the space of twenty-four years. Berthier de Sauvigny made it something like a point of honor, to confer reputation on this study, and thought that he could not confide this enterprise to any one more capable than M. Broussonet, whom he had known in England. In the exercise of his new functions, he displayed great flexibility of talents; and, quitting by degrees that dryness of style which is the character of the school to which he had attached himself, he soon acquired the powers of composition, and at times displayed all the charms of the most captivating eloquence. The first of his eulogies, that of Buffon, is perhaps still feeble for so great a name; but in those which succeeded, he sometimes makes us enamoured with the peaceable virtues of Blareau; while, at other times, he induces us to admire the frankness, probity, and devotion of Turgot, to whatsoever respected the public good. During those times, when the vows of all seemed to call for a popular revolution, he procured abundant applauses, by constantly and energetically declaring his wishes in behalf of the inhabitants of the country. M. Broussonet, on whom such discourses had conferred a popular reputation, could not fail of being chosen to supply some of those places which, at this period, were about to be conferred by the opinions of his fellow citizens; but the very first one obtained by him made him quickly regret the neglected sciences, and the peaceable occupations of the closet. Having been nominated, in 1789, to the electoral body of Paris, and consequently chosen to supply the place of the suspended authorities, on the very day he

first entered the Hotel de Ville, it was but to behold the intendant, his friend and protector, butchered before his eyes! Being afterwards appointed, along with Vauvilliers, to obtain the necessary quantity of provisions for the capital, he found himself more than twenty times menaced with the loss of his life by the people who were preserved by his solitudes, while they permitted themselves to be misled by those very men whose interest it was to starve them. He afterwards sat in the Legislative Assembly; at the dissolution of which he retired to his house near Montpellier, in order to enjoy that repose which had fled from him for ever, since the first moment that he had yielded to the attractions of ambition. After the revolution of the 31st of May, he was imprisoned in the citadel of the place of his nativity, and would have experienced the same fate as so many other illustrious men, had he not found means to escape to his brother, who at that period was employed as a physician in the army of the Pyrenees. Under pretence of botanising, he found his way into Spain, through the breche de Roland; and, after being nearly frozen to death, at length reached Madrid, without money, and without clothes, after nearly perishing with hunger, having in vain solicited several of the barber surgeons of those villages through which he passed, to employ him as their assistant, for his virtuous alone.

MM. Cavanilles and Orteza received him with open arms, and Sir Joseph Banks interested himself in his behalf; but he was soon persecuted by the emigrants, and obliged to fly, first to Xeres, next to Cadiz, and then to Lisbon. Here again they discovered, and denounced him to the Inquisition, under pretence that he was a freemason; they even accused the duke de la Foens, a prince of the blood, and president of the Academy of Sciences, who, at the request of Correa de Serra, a celebrated botanist, had hitherto protected him, of jacobinism. In this extremity, M. Broussonet considered himself very fortunate, in being permitted to accompany, in quality of physician, the ambassador whom the states of America sent to the emperor of Morocco. His next step was to obtain his name to be expunged by the directory, from the list of emigrants; and he then employed all the interest of his friends to obtain for him the office of consul at Morocco. The plague having driven him from that country, he was nominated to the consulship of the Canaries; there, as at Salee, Mogador, Lisbon, &c. he devoted himself to his ruling passion, employing all his leisure moments in studying plants, and making interesting observations, which he transmitted regularly to his native country. Still, however, it was evident, that such a man as Broussonet was destined for the chair of a university; and he accordingly returned to Montpellier, under the protection of M. Chaptal, minister of the interior, and soon rendered the botanical garden the admiration of all botanists, both in respect to the regularity and number of the plants, while his lectures attracted a crowd of students from all parts. But the loss of his wife, and the dangerous state of his daughter's health produced

a slight degree of apoplexy, after which he could never either pronounce or write proper names or substances; he was able to describe the figure of a man, or the color and form of a plant, without being able to utter the precise appellation of the one or the other. Notwithstanding this, Broussonet might have entirely recovered, had he not exposed himself to the heat of the sun, on the 21st of July, 1809, which produced all the agitations incident to a convulsive lethargy, and finally put an end to his life, at the end of six days.

BROUWER (Adrian), a famous Dutch painter, born in 1608, of poor parentage. Francis Hals, under whom he proved an inimitable artist, took him from begging in the streets. His subjects were copied from nature, but taken from low life; such as droll conversations, drunken brawls, boors at cards, or surgeons dressing the wounded. Brouwer was apprehended at Antwerp as a spy; where, being discovered by Rubens, he procured his liberty, took him home, clothed him, and endeavoured to acquaint the public with his merit; but the levity of his temper made him quit his benefactor; and he died in 1638, destroyed by a dissolute course of life, in his thirtieth year.

BROW, *v. & n.* } Goth. *bru, brun*; Swed. *BROW'LESS*, } *bryn*; Sax. *braw*; Teut. *braw*.
 BROW'BEAT, } Browbeat, perhaps from
 BROW'BOUND, } Goth. and Sax. *brog*; Welsh
 BROW'SICK, } *braw*. Terror; to depress; bear down; dismay. To make the countenance fall. Brow literally is the edge of a place; applied to the forehead, to the arch over the eye, to the general air of the countenance. To brow also is to bound, to limit, to be at the edge of.

With scalled *browes* blake, and pill'd berd;
 Of his visage children were sore aferrd.

Chaucer's Canterbury Tales.

Then call them to our presence, face to face,
 And frowning *brow* to *brow*. *Shakspeare.*

She could have run, and waddled about;
 For even the day before she broke her *brow*. *Id.*

In that day's feats,
 He proved the best man i' the field; and, for his
 meed,
 Was *brow-bound* with the oak. *Id.*

The earl, nothing dismayed, came forwards that
 day unto a little village, called Stoke, and there en-
 camped that night, upon the *brow* or hanging of a hill.
Bacon.

Them, with fire, and hostile arms,
 Fearless assault; and to the *brow* of heaven
 Pursuing, drive them out from God and bliss.

Milton.

Tending my flocks hard by, i' the hilly crofts
 That *brow* this bottom glade. *Id.*

So we some antique hero's strength
 Learn by his launce's weight and length
 As these vast beams express the beast
 Whose shady *brows* alive they drest. *Waller.*

'Tis now the hour which all to rest allow,
 And sleep sits heavy upon every *brow*. *Dryden.*

In thy fair *brow* there's such a legend writ
 Of chastity, as blinds the adulterous eye. *Id.*

It is not for a magistrate to frown upon, and *brow-
 beat*, those who are hearty and exact in their ministry;
 and, with a grave nod, to call a resolved zeal want of
 prudence. *South.*

But yet a gracious influence from you
May alter nature in our *browsick* crew. *Suckling.*

Yet oft-times on his maddest mirthful mood
Strange pangs would flash along Childe Harold's brow,
As if the memory of some deadly feud,
Or disappointed passion, lurked below. *Byron.*

BROW, or EYE-BROWS. See ANATOMY.

BROWALLIA, in botany, a genus of the angiospermia order, in the didynamia class of plants. Its generic characters are: CAL. one-leaved perianth: COR. petal one: STAM. filaments four; antheræ simple: PIST. an ovate germ; filiform style; and thick stigma: PER. ovate capsule; receptacle compressed: SEEDS numerous. The species are annuals, and natives of America.

BROW-ANTLER, among sportsmen, the branch of a deer's horn next the tail.

BROWN', } Goth. *brune*; Swed. *brun*,

BROWN'ISH, } *braun*; Teut. *brown*; Sax. *brun*;

BROWN'Y, } Bel. *bruin*; Fr. *brun*; Ital.

BROWN'NESS, } *bruno*; from Gothic *brina*, to burn, corresponding with *πυρρον*. A dark reddish color. That color, says Tooke, which things have that have been burned.

A burnette cote honge there withal,
Yfurred with no nienivere,
But with a furre rough of here,
Of lambe skynys here and blake.

Chaucer. Romaunt of Rose.

I like the new tire within excellently, if the hair
were a little *brouner*. *Shakspeare.*

Brown, in high Dutch, is called *bruin*; in the Netherlands *bruyan*; in French *couleur brune*; in Italian *bruno*. *Peacham.*

A *brownish* grey iron-stone, lying in thin strata, is poor, but runs freely. *Woodward.*

From whence high Ithaca o'erlooks the floods,
Brown with o'ercharging shades and pendent woods. *Pope.*

Long untravelled heaths,
With desolation *brown*, he wanders waste. *Thomson.*

BROWN, among dyers, painters, &c. a dusky color inclining towards redness. Of this color there are various shades or degrees, distinguished by different appellations; such as Spanish brown, a sad brown, a tawny brown, the London brown, a clove brown, &c.—Spanish brown is a dark dull red, of a horse-flesh color. It is an earth; and is of great use among painters, being generally used as the first and priming color that they lay upon any kind of timber-work in house-painting. That which is of the deepest color, and freest from stones, is the best. Though this is of a dirty brown color, yet it is much used to shadow vermilion, or to lay upon any dark ground behind a picture, or to shadow yellow berries in the darkest places, when there is no lake, &c. It is best and brightest when burnt in the fire till it be red-hot.

BROWN (Edward), the son of Sir Thomas, physician to king Charles II. and president of the Royal College at London, was born in 1642, and studied at Cambridge and Oxford. He then travelled; and at his return published a brief account of Hungary, Servia, Bulgaria, Macedonia, Thessaly, Austria, Styria, Carinthia, Carniola, Friulia, &c. He also published an account of travels through a great part of Ger-

many; and joined his name to those of many other eminent men, in a translation of Plutarch's lives. He was acquainted with Hebrew, was a critic in Greek, and no man of his age wrote better Latin. High Dutch, Italian, French, &c. he spoke and wrote with as much ease as his mother tongue. King Charles said of him, that he was as learned as any of the college, and as well-bred as any at court. He died August 27th 1708.

BROWN (George), bishop of Dunkeld, flourished about the end of the fourteenth century. He studied grammar at Dundee, and philosophy at St. Andrews; and was afterwards appointed chancellor of Aberdeen. Being sent to Rome by king James III. on some business relative to the see of Glasgow, he became acquainted with the college of cardinals, and particularly the vice-chancellor Roderick Borja, who, by his interest with Pope Sixtus IV. got Brown raised to the see of Dunkeld. He was a man of learning and public spirit, but has been accused of ambition and rapacity. He procured his diocese to be greatly enlarged; built Clunie castle, and began the stone bridge across the Tay at Dunkeld; but only lived to see one arch completed. He died January 14th, 1514; and was succeeded in his bishopric by the celebrated Gavin Douglas, the translator of Virgil.

BROWN (John, D.D.), a clergyman of the church of England, and an ingenious writer, was born at Rothbury, in 1715. His father was a native of Scotland, of the Browns of Coalstown, near Haddington. Our author was sent in 1732 to Cambridge, and entered of St. John's College, under the tuition of Dr. Tunstall. After taking the degree of A.B. with great reputation (his name being at the head of the list of wranglers), he received both deacon's and priest's orders, and was appointed minor canon and lecturer of the cathedral church. In 1739 he went to Cambridge to take his degree of A.M. In 1745 he distinguished himself as a volunteer in the king's service, and behaved with great intrepidity at the siege of Carlisle. Mr. Brown's attachment to the whig party procured him the friendship of Dr. Osbaldeston, who, when advanced to the see of Carlisle, appointed Mr. Brown one of his chaplains. He wrote about this time a poem, entitled Honor, inscribed to Lord Viscount Lonsdale. His next poetical production was his Essay on Satire; which was of considerable advantage to him, both in point of fame and fortune. It was addressed to Warburton; to whom it was so acceptable, that he took Mr. Brown into his friendship, and introduced him to Ralph Allen, Esq. of Prior Park, near Bath. In 1751 Mr. Brown published his Essays on the Characteristics of lord Shaftesbury, &c. which was received with great applause. In 1754 he was promoted by the earl of Hardwicke to the living of Great Horkeley in Essex, and in 1755 took the degree of D.D. at Cambridge, and published his tragedy of Barbarossa. A second tragedy named Athelstan, represented at Drury-Lane, was also well received by the public. In 1757 appeared his famous Estimate of the Manners and Principles

of the Times. The reception which this work met with was very flattering; no fewer than seven editions of it having been printed in little more than a year. Voltaire speaks of it in a way very honorable to Dr. Brown. He afterwards wrote *An Explanatory Defence of the Estimate of the Manners and Principles of the Times*. In 1760 he published an *Additional Dialogue of the Dead, between Pericles and Aristides*; being a sequel to a dialogue of lord Lyttelton's between Pericles and Cosmo. Dr. Brown's next publication was *The cure of Saul, a sacred ode*; which was followed by *A Dissertation on the Rise, Union, and Power, the Progressions, Separations, and Corruptions of Poetry and Music*; both in 1763. In 1764 he published in 8vo. *The History of the Rise and Progress of Poetry through its several Species*; which is merely the substance of the Dissertation. The same year he published a volume of sermons, dedicated to his patron bishop Osbaldeston. In the beginning of 1765 *Thoughts on Civil Liberty, Licentiousness, and Faction*; and the same year a sermon on the *Female Character and Education*, preached 16th May, 1765, before the guardians of the asylum for deserted female orphans. His last publication was in 1766, *A Letter to the Rev. Dr. Lowth*, occasioned by his late Letter to the Right Rev. Author of the *Divine Legation of Moses*. In 1765, while Dr. Dumaesq resided in Russia, to which he had been invited in 1764 to give his assistance for the regulating of several schools, which the empress intended to erect, he wrote to Dr. Brown for his advice, and the reply of the latter so pleased the empress that she immediately invited him to Russia. He accepted the invitation, and £1000 being ordered for his expense, he actually received £200. But when on the point of setting out, an attack of the gout and rheumatism, to which he had been long subject, so impaired his health, that his friends dissuaded him from the journey. The disappointment, however, concurring with the general state of his health, was followed by a dejection of spirits: in consequence of which he put an end to his life on the 23d of September 1766, in the fifty-first year of his age.

Brown (John), M. D. author of the Brunonian system of medicine, was born A. D. 1735 in the parish of Bonkle in Berwickshire, in a village near Dunse. His father dying, while young, and his mother's second husband being a weaver, it was intended to bring him up to the same business, but young Brown having already given evidence of uncommon genius, as well as intense application, while attending the grammar school of Dunse, under the celebrated Mr. Cruickshanks, a lady in that neighbourhood took him under her patronage, and sent him to the University of Edinburgh to study divinity. The pious intentions, however, of this benevolent lady were frustrated by a curious incident. He was summoned before the kirk session, for having heard a sermon in the established church, and unwilling to submit to the ecclesiastical censure, for this venial fault, he chose rather to leave his old friends, and join the establishment. He never went farther in divinity, than delivering one probationary sermon in the hall of the Uni-

versity. He returned to Dunse in 1758, and acted for a year as usher or assistant to his late teacher. In the end of 1759 he settled in Edinburgh, with the double view of teaching Latin and studying physic. He addressed a letter in Latin to each of the medical professors, all of whom being apprised of his merits as a classical scholar, presented him with tickets of admission to their lectures gratis. But none of them seemed to entertain a higher opinion of his classical powers, than the late celebrated Dr. Cullen, who not only employed him as a private instructor in his own family, but took every opportunity of recommending him to others. In 1765 he married Miss Lamond, a young lady of a respectable family in Edinburgh, but without any fortune. Mrs. Brown not long after taking a boarding house, her husband's high reputation soon crowded it with boarders. But want of economy and several losses obliged Brown at last to stop payment, about 1770. About this time, too, that warmth of attachment which had hitherto subsisted between him and Dr. Cullen, began to cool. It was about this period also that he first promulgated his new system of medicine. See BRUNONIAN SYSTEM.

Brown's income was by no means increased by his discovery. It was not to be expected, indeed, that a set of learned gentleman would be ready to acknowledge all the former theories of the science they professed to teach, to have been erroneous, and at once become converts to his new doctrine. His classes were therefore never attended by very great numbers of students, nor were his patients by any means so numerous as might have been expected from the surprising cures he performed upon some individuals, who applied to him in desperate cases, where the ordinary practice had failed. No physician, however, or public lecturer, was ever more beloved by his patients and pupils than Brown. Of their attachment to his person, we shall give one instance out of many. In the session of 1779-80, a few of them, unknown to Brown, collected money among themselves, to pay the usual fees of a diploma from the university of St. Andrews; (where his merits, both as a medical teacher and linguist, were too well known, to render any examination necessary), and surprised him by presenting it to him. In the course of the year 1780 he published the first edition of his *Elementa Medicinæ*, in one vol. 12mo. dedicated to Sir John Eliot, M. D. and in 1784 he reprinted it (but without any dedication), in 2 vols. 8vo. with considerable alterations and large additions. The doctor's affairs now hastened to a crisis. His income not being equal to his expenditure, he was obliged in spring 1785 to take shelter from creditors in the Abbey of Holyrood house: and, though a settlement was soon obtained with most of them, yet one more rigorous than the rest incarcerated him in the Canongate jail, in January 1786. The late lord Gardenstone, having heard of his distress, generously enabled him to execute the plan he had long had in contemplation, of settling in London, by presenting him with 160 guineas. The Dr. accordingly went up in the end of 1786, after having published his *Observations on the*

New and Old Systems of Medicine: and having performed extraordinary cures upon some patients who were able to reward him liberally, he was enabled, within four months after his arrival, to send for his wife and family. But his income being uncertain, and his family expenses very great, he was sent to the King's Bench prison by his creditors, though he was not long confined. In 1788 he published his *Elements of Medicine* in English. Dr. Brown did not long survive this labor; after giving an introductory lecture on the 6th of October 1788, and going to bed seemingly in ordinary health, he was found dead next morning, being then in his fifty-third year. He left a widow and eight children. Dr. Brown was twice elected president of the Royal Medical Society, in 1776 and 1780. He was also elected Latin Secretary to the Society of Scot's Antiquaries; and was the founder of a Lodge of Free Masons, stiled the Roman Eagle, instituted in 1784, in which Latin was the only language spoken.

BROWN (Robert), a schismatic divine, the founder of the Brownists, a numerous sect in the reign of queen Elizabeth. He was the son of Mr. Anthony Brown of Tolthrop in Rutlandshire; whose father had obtained the singular privilege of wearing his cap in the king's presence, by a charter of Henry VIII. Robert was educated at Cambridge, and was afterwards schoolmaster in Southwark. About 1580 he began to promulgate his principles of dissent from the established church; and the following year he preached at Norwich, where he soon accumulated a numerous congregation. He was violent in his abuse of the church of England; pretended to divine inspiration, and that he alone was the sure guide to heaven. His sect daily increasing, Dr. Freake bishop of Norwich, with other ecclesiastical commissioners, called him before them. He was insolent to the court, and they committed him to the custody of the sheriff's officer: but he was released at the intercession of lord treasurer Burleigh, to whom he was related. Brown then left the kingdom; and, with permission of the states, settled at Middleburg in Zealand; where he formed a church after his own plan, and preached without molestation. In 1585 we find him again in England: for in that year he was cited to appear before archbishop Whitgift; and seeming to comply with the established church, was, by lord Burleigh, sent home to his father: but, relapsing into his former principles, he wandered about for some time and endured great hardships. At last he fixed at Northampton; where, laboring with too much indiscretion to increase his sect, he was cited by the bishop of Peterborough, and, refusing to appear, was excommunicated for contempt. He moved for absolution, which he obtained, and from that time became a dutiful member of the church of England. This happened about 1590; and, in a short time after, Brown was preferred to a rectory in Northamptonshire, where he kept a curate to do his duty, and where he might probably have died in peace; but having some dispute with the constable of his parish, he proceeded to blows; and was afterwards so insolent to the justice, that he committed him to North-

ampton jail, where he died in 1630, aged eighty. Thus ended the life of the famous Robert Brown; the greatest part of which was a series of opposition and persecution. He boasted on his death-bed, that he had been confined in no less than thirty-two different prisons. He wrote *A Treatise of Reformation without Tarrying for Any*, and of the Wickedness of those Teachers which will not Reform themselves and their Charge, &c. by me, Robert Brown; and two others, making together a thin 4to. published at Middleburg, 1582.

BROWN (Simon), a dissenting minister of uncommon talents and singular misfortunes, born at Shepton-Mallet in Somersetshire, in 1680. Excelling in grammatical learning, he early became qualified for the ministry, and began to preach before he was twenty. He was first called to be a pastor at Portsmouth, and afterwards removed to the Old Jewry, where he remained for a number of years. But the death of his wife and only son, in 1725, affected him so as to deprive him of his reason; and he became from that time lost to himself to his family, and to the world. His congregation at the Old Jewry, in expectation of his recovery, delayed for some time to fill his post; but at length, all hopes being over, Mr. Chandler was appointed to succeed him, in 1725. This double misfortune affected him at first in a manner little different from distraction, but afterwards sunk him into a settled melancholy. He quitted the duties of his function, and would not be persuaded to join in any act of worship, public or private. Being urged by his friends for a reason of this extraordinary change, at which they expressed the utmost astonishment, he told them that 'he had fallen under the sensible displeasure of God, who had caused his rational soul gradually to perish, and left him only an animal life in common with brutes;' that though he retained the human shape, and the faculty of speaking in a manner that appeared to others rational, he had all the while no more notion of what he said than a parrot; that it was therefore profane in him to pray, and incongruous to be present at the prayers of others; and, very consistently with this, he considered himself no longer as a moral agent, or subject of either reward or punishment. In this way of thinking and talking he unalterably and obstinately persisted to the end of his life; though he afterwards suffered, and even requested, prayers to be made for him. Some time after this, he retired to Shepton-Mallet, and though in his retirement he was perpetually contending, that his powers of reason and imagination were gone, yet he was as constantly exerting both with much activity and vigor. He amused himself sometimes with translating parts of the ancient Greek and Latin poets into English verse; he composed little pieces for the use of children; An English Grammar and Spelling Book; An Abstract of the Scripture History, and a Collection of Fables, both in metre; and with much learning he brought together, into a short compass, all the *Themata* of the Greek and Latin tongues, and also compiled a Dictionary to each of those works, to render the learning of these languages more easy and compendious. Of these performances none have been made public. But

what showed the strength and vigor of his understanding, though he was bemoaning the loss of it, were two works composed during the two last years of his life, in defence of Christianity, against Woolston and Tindal. He wrote an answer to Woolston's fifth Discourse on the Miracles of our Saviour, entitled, *A Fit Rebuke for a Ludicrous Infidel*, with a Preface concerning the prosecution of such writers by the civil power. His book against Tindal was called, *A Defence of the Religion of Nature and the Christian Revelation*, against the defective account of the one and the exceptions against the other, in a book entitled, *Christianity as old as the Creation*; and it is allowed to be one of the best that controversy produced. He intended to dedicate it to Queen Caroline; but, as the unhappy state of his mind appeared in the dedication, his friends suppressed it. The following is a copy which was preserved as a curiosity: 'Madam, Of all the extraordinary things that have been rendered to your royal hands since your first happy arrival in Britain, it may be boldly said what now bespeaks your majesty's acceptance is the chief. Not in itself indeed: it is a trifle unworthy your exalted rank, and what will hardly prove an entertaining amusement to one of your majesty's deep penetration, exact judgment and fine taste; but on account of the author, who is the first being of the kind, and yet without a name. He was once a man, and of some little name; but of no worth, as his present unparalleled case makes but too manifest: for, by the immediate hand of an avenging God, his very thinking substance has for more than seven years been continually wasting away, till it is wholly perished out of him, if it be not utterly come to nothing. None, no not the least remembrance of its very ruins remains; not the shadow of an idea is left; nor any sense, so much as one single one, perfect or imperfect, whole or diminished, ever did appear to a mind within him, or was perceived by it. Such a present, sent from such a thing, however worthless in itself, may not be wholly unacceptable to your majesty, the author being such as history cannot parallel: and if the fact, which is real, and no fiction or wrong conceit, obtains credit, it must be recorded as the most memorable, and indeed astonishing, even in the reign of George II. that a tract, composed by such a thing, was presented to the illustrious Caroline; his royal consort need not be added; fame, if I am not misinformed, will tell that with pleasure to all succeeding times. He has been informed, that your majesty's piety is as genuine and eminent as your excellent qualities are great and conspicuous. This can indeed be truly known to the great Searcher of hearts only. He alone, who can look into them, can discern if they are sincere, and the main intention corresponds with the appearance; and your majesty cannot take it amiss if such an author hints, that his secret approbation is of infinitely greater value than the commendation of men, who may be easily mistaken and are too apt to flatter their superiors. But if he has been told the truth, such a case as his will certainly strike your majesty with astonishment; and may raise that commiseration in your royal breast, which

he has in vain endeavoured to excite in those of his friends: who, by the most unreasonable and ill-founded conceit in the world, have imagined, that a thinking being could, for seven years together, be a stranger to his own powers, exercise, operations, and state; and to what the great God has been doing in it and to it. If your majesty, in your most retired address to the King of Kings, should think of so singular a case, you may, perhaps, make it your devout request, that the reign of your beloved sovereign and consort may be renowned to all posterity by the recovery of a soul now in the utmost ruin, the restoration of one utterly lost, at present, amongst men. And should this case affect your royal breast, you will recommend it to the piety and prayers of all the truly devout who have the honor to be known to your majesty: many such, doubtless, there are, though courts are not usually the places where the devout resort, or where devotion reigns. And it is not improbable, that multitudes of the pious throughout the land may take a case to heart, that under your majesty's patronage comes thus recommended. Could such a favor as this restoration be obtained from Heaven by the prayers of your majesty, with what transport of gratitude would the recovered being throw himself at your majesty's feet, and, adoring the divine power and grace, profess himself, Madam, your majesty's most obliged and dutiful servant, SIMON BROWN." Mr. Brown survived the publication of this last work a very short time. A complication of distempers, contracted by his sedentary life, brought on a mortification, which put a period to his labors and sorrows about the end of 1732. He was unquestionably a man of uncommon abilities and learning: his work against Woolston showed him to have also vivacity and wit; and, notwithstanding that strange conceit which possessed him, it is remarkable that he never appeared feeble or absurd, except upon the subject of his frenzy. Before he was ill, he published some single Sermons, with a Collection of Hymns and Spiritual Songs.

BROWN (Sir William), a noted physician, and multifarious writer, was settled originally at Lynn, in Norfolk, where he published a translation of Dr. Gregory's *Elements of Catoptrics and Dioptrics*; to which he added, 1. A method for finding the Foci of all Specula, as well as Lenses universally; as also magnifying or lessening a given object by a given Speculum or Lens, in any assigned proportion; 2. A Solution of those Problems which Dr. Gregory has left undemonstrated; 3. A Particular Account of Microscopes and Telescopes, from Mr. Huygens; with the Discoveries made by Catoptrics and Dioptrics. Having acquired a competence by his profession, he removed to Queen's Square, Ormond Street, London, where he resided till his death. By his lady, who died in 1763, he had one daughter, grandmother to Sir Martin Brown Folkes, bart. He wrote a great number of lively essays in prose and verse, which he printed and circulated among his friends. The active part taken by Sir William Brown in the contest with the licentiates, in 1768, occasioned his being introduced by Mr. Foote in his *Devil upon Two Sticks*. Upon Foote's exact

representation of him with his identical wig and coat, tall figure, and glass stiffly applied to his eye, he sent him a card complimenting him on having so happily represented him; but as he had forgotten his muff, he had sent him his own. This good-natured method of resenting disarmed Foote. When he lived at Lynn, a pamphlet was written against him: he nailed it up against his own door. He died in 1774, aged eighty-two; and by his will left two prize medals to be annually contended for by the Cambridge students.

BROWN (Thomas), 'of facetious memory,' as he is styled by Addison, was the son of a farmer in Shropshire; and entered in Christchurch College, Oxford, where he soon distinguished himself. But his irregularities not suffering him to continue long there, he went to London to seek his fortune; his companions, however, being more delighted with his humor, than ready to relieve his necessities, he had recourse to the usual refuge of scribbling for bread; and published a great variety of poems, letters, dialogues, &c. full of humor and erudition, but often indelicate. Towards the end of Tom Brown's life, he was in favor with the earl of Dorset, who invited him to dinner on a Christmas day, with Mr. Dryden, and some other gentlemen celebrated for their ingenuity; when Mr. Brown, to his agreeable surprise, found a bank note of £50. under his plate, and Mr. Dryden, at the same time, was presented with another of £100. Mr. Brown died in 1704; and was interred in the cloister of Westminster Abbey, near the remains of Mrs. Behn, with whom he was intimate. His works, consisting of Dialogues, Essays, Satires, &c. have been printed both in 8vo. and 12mo., making four volumes.

BROWN (Ulysses Maximilian), a celebrated general of the eighteenth century, was son of Ulysses, baron Brown and Camus, colonel of a regiment of cuirassiers in the emperor's service, and descended from one of the most ancient families in Ireland. He was born at Basil in 1705; and having finished his first studies at Limerick in Ireland, was, in 1715, sent for into Hungary, by count George Brown, his uncle, colonel of a regiment of infantry. He was present at the famous battle of Belgrade, in 1717, being then but twelve years of age. Next year he followed his uncle into Italy, who made him continue his studies in the Clementine College at Rome, till 1721, when he was sent to Prague to learn the civil law. At the end of 1723 he became captain in his uncle's regiment, and in 1725 lieutenant-colonel. In 1730 he went into Corsica with a battalion of his regiment; and contributed greatly to the taking of Calansara, where he received a considerable wound in his thigh. In 1732 the emperor made him chamberlain. He was raised to the rank of colonel in 1734; and distinguished himself so much in the war of Italy, especially at the battles of Parma and Guastalla, and in burning, in the presence of the French army, the bridge which the marshal de Noailles had caused to be thrown over the Adige, that he was made general in 1736. In 1737 he assisted in the retreat of the army, after the unhappy battle of Banjaluca, in Bosnia, and saved all the

baggage. His admirable conduct upon this occasion was rewarded by his obtaining a second regiment of infantry. At his return to Vienna, in 1739, the emperor Charles VI. raised him to the rank of general field-marshal-lieutenant, and made him counsellor in the aulic council of war. After the death of that prince, the king of Prussia entering Silesia, count Brown with a small body of troops, disputed the country with him inch by inch. He signalled himself on several other occasions; and, in 1743, the queen of Hungary made him a privy counsellor, at her coronation in Bohemia. He at length passed into Bavaria, where he commanded the van-guard of the Austrian army; seized Deckendorf, with a great quantity of baggage, and obliged the French to abandon the banks of the Danube, which the Austrian army passed in full security. The same year the queen of Hungary sent him to Worms, as her plenipotentiary to the monarch of Britain; where he signed the treaty of alliance between the courts of Vienna, London, and Turin. In 1744 he followed prince Lobkowitz into Italy; took Velletri, overthrew several regiments, and made many prisoners. The following year he was recalled into Bavaria, where he took Wilshoffen by assault, and received a dangerous shot in the thigh. The same year he was made general of the artillery; and in January, 1746, marched for Italy at the head of a body of 18,000 men. He then drove the Spaniards out of the Milanese; and, having joined the forces under prince de Lichtenstein, commanded the left wing of the Austrian army at the battle of Placentia, on the 15th of June, 1746, and defeated the right wing of the enemy's forces, commanded by marshal de Maillebois. After this victory he commanded in chief the army against the Genoese; seized the pass of Bochetta, though defended by above 4000 men; and took the city of Genoa. Count Brown at length joined the king of Sardinia's troops; and took, in conjunction with him, Mont Alban, and the county of Nice. On the 30th of November he passed the Var; entered Provence, and had taken the isles of St. Margaret and St. Honorat, when the revolution which happened in Genoa, and the advance of Marshal de Belleisle with his army, obliged him to make that retreat which, on account of the skilful manner in which he conducted it, procured him the admiration of all Europe. He employed the rest of the year 1747 in defending the Austrian states in Italy; and, after the peace of 1748, he was sent to Nice to regulate there, in conjunction with the duke of Belleisle and the marquis de las Minas, the differences that had arisen with respect to the execution of some of the articles of the definitive treaty of Aix-la-Chapelle. The empress queen, to reward these signal services, made him governor of Transylvania, where he rendered himself generally admired for his probity and disinterestedness. In 1752, he obtained the government of the city of Prague, with the chief command of the troops in that kingdom; in 1753 the king of Poland, elector of Saxony, honored him with the collar of the order of the white eagle; and in 1754 he was declared field-marshal. The king of Prussia entering Saxony in 1756, and attacking Bohemia,

count Brown repulsed him at the battle of Lowositz, 1st of October, though he had only 27,000 men, and the king of Prussia had at least 40,000. Seven days after this battle he undertook the famous march into Saxony, to deliver the Saxon troops shut up between Pirna and Königstein; an action which, though unsuccessful, is worthy of the greatest captains ancient or modern. He at length obliged the Prussians to retire from Bohemia; for which he was made a knight of the golden fleece. Soon after, he hastily assembled an army in Bohemia, to oppose the king of Prussia, who had again penetrated into that kingdom at the head of all his forces; and on the 6th of May fought the famous battle of Prague; in which, while he was employed in giving orders for maintaining the advantages he had gained over the Prussians, he was so dangerously wounded that he was obliged to be carried to Prague, where he died on the 26th of June, 1757, aged fifty-two.

BROWN (Thomas), M. D., late professor of moral philosophy at the university of Edinburgh, was the son of the Rev. S. Brown, minister of Kirkmabreck, and descended from a family which suffered considerably by persecution for their adherence to the covenant. He was born in January, 1778, and the youngest of thirteen children. His father dying while Dr. Brown was in his infancy, the care of his education devolved on his mother, who personally devoted herself to the task, until he had reached his seventh year. He was then taken to England, under the protection of a maternal uncle, Capt. Smith, of the thirty-seventh regiment, and placed at no less than four different schools successively, near London. It appears more surprising that he should thus acquire anything solid than that he should make several respectable friends. At Kensington he became acquainted with the late earl Cowper and his brothers; at Chiswick with Sir John Copley, the present attorney-general; and at Kew Green, where his uncle lived, with the mother and sisters of Sir Robert Graham, now senior baron of the exchequer. These ladies were among the first to discover and stimulate his early taste for poetry; nothing, in our language, is much more touching than his 'Recollections' of their house at Kew Green, in after times; where his

— full bosom deemed, with eager glow,
The ready portal's quickest opener slow :—
Still sure within that cheerful room to find
Kind eyes, kind voices, and O! hearts more kind.

His uncle dying, in 1792, he returned once more to his maternal roof, a tolerable proficient, we are told, in classical literature. He had certainly displayed from childhood a spirit of enquiry, united with a most amiable temper, and great strength of memory.

One of his masters, when speaking of him to a friend, mentioned an example of this. The punishment usually awarded for transgressing the bounds of the play-ground, was to commit to memory a passage of some author. Dr. Brown incurred this penalty more frequently than any other boy in the school; indeed it was the only offence with which he was ever charged; and the punishment, from his great quickness, he did not

regard. 'I was resolved, however,' to use his teacher's own words, 'to fix him for once, and gave him a task that I thought even he should not be able to get in a hurry; soon after, I was called out of the room, and, to my utter astonishment, when I returned, which was in a very few minutes, he came up and repeated it every word without making the slightest mistake.' When the anecdote was mentioned to Dr. Brown, he recollected the circumstance, and added, that he was very impatient for his master's return, as he was prepared for him some time before he made his appearance. He also mentioned, that the passage contained the beautiful description of Adam and Eve in Paradise, and that he was particularly struck with the effect of the following pause:—

hung over her

Enamoured.

All his pocket money had at this period been expended in books, and he had to endure the total loss of this precious treasure as it was coming home to him by sea. Dr. Brown always mentioned the circumstance with considerable feeling, and as one of his greatest misfortunes. He never read without a pencil in his hand, to mark the best passages, and ultimately had no pleasure, says his biographer, in reading a book that was not his own. He also adopted Gibbon's practice of endeavouring to express his own ideas of a subject of importance, before sitting down to read anything upon it.

He entered the university of Edinburgh in his seventeenth year, and commenced with a course of logic under Dr. Finlayson. At Dr. Currie's house in Liverpool, where he spent the vacation of 1793, he first perused Mr. Stewart's *Elements of the Philosophy of the Mind*; and the next winter attended that distinguished professor's lectures, with the greatest assiduity. He had the acuteness however to detect a want of analysis in his tutor's productions, and, after much hesitation, submitted to him a criticism on one of his theories. Mr. Stewart heard him read his paper with great candor and urbanity; and read to him in return, with a smile of wonder and admiration, a letter which he had previously received from the celebrated M. Prevost of Geneva, containing the very arguments of our young philosopher. At this period commenced a warm and steady friendship between Dr. Brown and Mr. Stewart, which was only terminated by the death of the former. Under professors Stewart, Robison, Playfair, and Black, and making such friends as Mr. Brougham, Mr. Horner, Mr. Leyden, Mr. Reddie, and Mr. Erskine, nothing could be more promising or delightful than Mr. Brown's college life.

'Many of his college acquaintance came and spent their evenings with him in his mother's house. He was always temperate in his habits. His favorite beverage was tea, and, over it, hour after hour was spent in discussing with his youthful companions

The wondrous wisdom that a day had won.

There was no subject in literature, or philosophy, that did not engage their attention. It was often morning before they parted; and such was

the amicable spirit in which their discussions were carried on, that none who happened to be present ever recollected the slightest appearance of irritation. In these peaceful and happy hours Dr. Brown distinguished himself by the boldness of his speculations, the acuteness of his reflections, and the noonday clearness with which he invested every subject that was introduced.

In lines to Mr. Reddie, prefixed to the War-Friend, Mr. Brown has given a picture of this period, which we cannot refrain from copying :

And, O! whate'er my studious toil may trace,
Well may thy name there find a votive place;
For who shall say, in grave or light design,
How much of lightest, gravest, has been thine?
Still memory loves to linger mid the bowers
That blessed our youthful academic hours;
When zeal to zeal the ready impulse spread,
And Science followed but where Friendship led.
Then in close heart, when mingling oft our lore,
We marvelled much, but questioned, doubted, more;—
In the gay rural walks where, soon or late,
Still rose some never weary old debate;—
Mixed in the flowing theme of truth and mirth,
Thought sprung from thought, one equal mutual
birth;—

And each, perhaps, with changeful strife untired,
Has warred with fancies which himself inspired.

In his nineteenth year he prepared *Observations on Dr. Darwin's Zoonomia*. They relate chiefly to the first volume, and he conceives one remark to be applicable to the whole of that ingenious philosopher's system, viz. that it is inconsistent with the fundamental principle of the theory, by which one faculty of the sensorium cannot increase or decrease without a corresponding decrease or increase of others. With singular ingenuousness he enclosed his papers, before their publication, to Dr. Darwin himself, and a correspondence ensued, in which neither were convinced; and the senior philosopher did not exhibit the better temper. This work received on its publication a very respectable character from the Monthly Reviewers, who never suspected it to be the juvenile performance it was. It also introduced its author to the acquaintance and esteem of Lord Woodhouselee, Mr. Mackenzie, and several other writers of eminence.

He was introduced at about the same time into the Literary Society of the University, and the Academy of Physics, distinguished in addition to the names already mentioned among his friends by the assistance of Dr. Birkbeck, Mr. Logan, Mr. Jeffery, Lord Webb Seymour, Mr. Smyth, Mr. Gillespie, &c. In their free and equal discussions every branch of science and morals was occasionally brought forward. Mr. Welsh perpetuates, in his notes to Dr. Brown's life, some curious minutes of their proceedings, drawn up by various gentlemen, and containing the propositions of Mr. Brougham, Mr. Horner, and several of the early writers in the *Edinburgh Review*. With regard to the freedom of some of their investigations, Dr. Brown remarks admirably in after life, 'To conceive that enquiry must lead to scepticism is itself a species of scepticism, as to the power and evidence of the principles to which we give our assent, more degrading, because more irrational, than that

open and consistent scepticism which it dreads.' We are, on the other hand, well reminded by his biographer (*Life of Dr. Brown*, 8vo. p. 76), that where there is a continual endeavour after the detection of fallacies, both our vanity and indolence are apt to lead us to rest satisfied with the detection of an error; without leading us to establish truth in its place.

The Academy of Physics will ever be memorable in the history of English literature, as giving rise to the *Edinburgh Review*, to which the first contributors sent their papers, we are told, gratuitously; and of these Dr. Brown was the author of the review of the *Philosophy of Kant*, the leading article of the second number. But his connexion with it was terminated by some liberties being taken with a paper designed for the fourth number, and was never renewed. We should have observed that, until the year 1798, Dr. Brown had been studying with a view to the legal profession, but finding it impracticable to combine this with his adored literary and philosophical pursuits, he relinquished the study of the law this year, and devoted himself to that of medicine.

Dr. Gregory was much struck with his proficiency, when in 1803 he applied for his diploma. His thesis was entitled *De Somno*, which, independent of its ingenuity as a theory, was much admired for the purity of its language; indeed he expressed himself at this time in Latin with the greatest elegance, and as fast as he could speak in English. A few months after receiving his degree, he published the first edition of his poems in two volumes, which, though neglected a good deal by the public, received the meed of warm applause wherever they came in contact with a refined taste or kindred genius. The next publication of Dr. Brown, though occasioned by a local and temporary dispute in the University of Edinburgh, bears the deep impression of his strength of mind, and accuracy of judgment as a metaphysician. Mr. Leslie was opposed as a candidate for the mathematical chair, on account of the approbation with which he had mentioned Mr. Hume, or rather a particular argument of his on causation, in his *Essay on Heat*. The subject of our memoir undertook to prove that the sentiments of Hume on this point were unobjectionable on any moral or religious ground, and in fact a valuable contribution to philosophical logic: while at the same time he ably convicted the unbeliever of false ideas on the origin of power. We can only refer to the essay in question; and Mr. Welsh's own excellent notes II and I, in chapter IV. of his life of Dr. B., for a further elucidation of this interesting topic. Professor Playfair speaks of his argument as being as clear and exact as could be expected in the solution of an algebraic question.

In 1806 he became associated in partnership with Dr. Gregory, as a physician, and, during a course of the most flattering success in his profession, was invited in 1808 on occasion of Mr. Stewart's ill health, to supply the place of that gentleman in the moral philosophy class of the university. In general, as Dr. Brown's biographer remarks, it is easy enough for a professor to find a substitute. Nothing more is necessary

than to transfer a MS. lecture to a tolerably patient and judicious friend. But Mr. Stewart's MS. lectures were mere notes, and Dr. Brown, it was well understood, if he undertook to lecture on this occasion, must depend wholly on compositions of his own. He acquitted himself, however, with such great credit on his first appearance, that the professor solicited the more serious service of his contributing his three lectures a-week to his class during the succeeding winter. The enthusiastic admiration with which he was at this time received, says Mr. Welsh, was beyond any thing of the kind that I can recollect.

'The moral philosophy class presented a very striking aspect. It was not a crowd of youthful students led away in the ignorant enthusiasm of the moment; distinguished members of the bench, of the bar, and of the pulpit, were daily present to witness the powers of this living philosopher. Some of the most eminent of the professors were to be seen mixing with the students, and Mr. Playfair, in particular, was present at almost every lecture. The originality, and depth, and eloquence of the lectures, was the subject of general conversation, and had a very marked effect upon the young men attending the university, in leading them to metaphysical speculations.'

'Upon its being announced that Mr. Stewart was to resume his lectures, a meeting of the class was held, when it was resolved that a committee should be appointed to draw up an address, congratulating that illustrious philosopher upon the recovery of his health, and expressing at the same time the feelings of admiration that had been excited by the labors of his substitute. The committee was composed of individuals distinguished for their rank and talents, many of whom are well known to the public. Lord John Russell, who has since distinguished himself in political life, and by his literary productions secured for his name no humble place in the brief list of noble authors, was the chairman.'

This display of Dr. Brown's powers so irresistibly established his claims to the future chair, that when Mr. Stewart expressed his desire to receive a coadjutor in the professorship, the decision in favor of him was almost unanimous. Mr. Stewart himself exerted all his influence in the university in his favor; and the most honorable testimonials to his competence crowded the table of the town council of Edinburgh. In May, 1810, the late Mr. Horner thus congratulates him on his elevation:—

TO DR. BROWN.

Lincoln's Inn, May 8th, 1810.

MY DEAR BROWN,

Lord Webb has done me the kindness to give me the news of your appointment as assistant and successor to Mr. Stewart. Upon any occasion of private advantage only to yourself, I need not assure you how sincerely I should rejoice at your good fortune and welfare. But in this event one has the pleasure to find every public as well as private wish gratified. I am made happy by it on Mr. Stewart's account, who felt

so natural an anxiety that the fate of his favorite science and the reputation of his chair should be maintained by no unworthy successor. I am happy for your sake, that you are enabled to devote your life to the pursuits in which you have most pleasure, and in which you have a long course before you of fame and discovery and good to mankind. But what, you will allow me to say, gives me more pleasure than any other consideration, is to see the university, and through it the interests of philosophical opinion in Scotland, rescued from the danger which seemed to threaten them with complete ruin, of the chair of moral philosophy being filled by one of those political priests who have already brought such disgrace upon the university, and done so much injury to learning. In your hands, all those great interests are not only safe, but sure of advancement. Believe me, therefore, it is with no common feelings of satisfaction and exultation that I congratulate you on this appointment. I am ever, my dear Brown,

Most faithfully yours,

FRA. HORNER.

On Dr. Brown now devolved the entire labor of the professorship; and though he retired for a few weeks into the country, to recruit himself in preparation for the ensuing winter's exertions, he had sufficient confidence in his own powers, it is said, to be assured that he could always prepare his lectures on the spur of the occasion. He seldom began to prepare any of them till the evening of the day before they were delivered. His labors commenced immediately after tea, and he continued at his desk till two, and often three, in the morning. After the repose of a few hours he resumed his pen, and often continued writing till he heard the hour of twelve, when he hurried off to the delivery of what he had composed. When the lecture was over, if the day were favorable, he would walk out, or employed his time in light reading, until his favorite beverage of the afternoon again restored him to the proper tone for renewed exertion. The first three volumes of his printed lectures were thus written during the first year of his professorship, and the whole of the remainder in the following season. He continued to read nearly the same lectures till the period of his lamented decease. The examination of his theory, and his many most valuable observations on the sciences, are necessarily referred to our articles on the subject of METAPHYSICS; and to MORAL PHILOSOPHY.

The further details of his personal history are few and mournful. We must not omit, however, a characteristic anecdote of their intercourse, preserved by Mr. Welsh.

'In speaking of a celebrated philosophical work, recently published, which I had been reading, I happened to express myself with considerable warmth of admiration. Dr. Brown, I observed, did not go along with me in my praises; and when I mentioned one particular chapter as very valuable, 'Why, really,' said he, 'I am not quite sure that I recollect his doctrines upon that head; will you state in a single sentence what his views are.' This I found no little difficulty in accomplishing. And I discovered that

he took this method of leading me to perceive that there was a want of precision in my favorite author, and that I had allowed my admiration of his eloquence to make me forget a vagueness in his ideas, and an obscurity in some of his statements. The critical doctrine implied in this short sentence of Dr. Brown was of so much advantage to me at that period of my studies, that I have recorded it for the benefit of those who may be at a similar stage in their academical course, though, in other respects, of little interest. Connected with his views of philosophical disquisition, however, it is valuable. I may here put together the substance of his ideas upon this subject, which I heard him at different times express.

‘He conceived that every philosophical writing ought to resemble a system of pyramids, each part a whole in itself, portions of which are to be grouped into larger pyramidal forms, which ought all to be so arranged as to constitute one great pyramid. In every sentence there ought to be a principal idea complete in itself, but forming an element of all the ideas that are joined into one paragraph. The idea of the paragraph is still one, which is to be grouped with all the other paragraphs into a section; the sections in their turn form larger divisions, which altogether constitute one mighty whole. To have a distinct view of all the particulars, each in itself, and at the same time in their mutual references and in their united reference to the great whole, constitutes, as he conceived, an essential element of the philosophic genius. This was what Dr. Brown himself constantly aimed at, and the effect of his system is to be observed in all his works. It was chiefly for this reason that he made use of a method of short-hand, which he invented; the benefit of which he found to consist not merely in enabling him to put down his ideas rapidly, but also in the power thus given him by the extreme minuteness of the character of taking in the whole subject both with his eye and his mind at a single glance.’

He instanced the Latin as affording the best example of synthetic language, and considered it indispensably necessary for every author who aimed at precision, to keep up a constant familiarity with the Latin classics, and to compose frequently in Latin. He also recommended his pupils frequently to attempt the translation of English works of eminence in their own words. From a miscellaneous MS. work of his, entitled *A Chaos*, we must gratify the reader with the following extract on the subject of religion:—

‘To the use of religion, as one of the great parts of the complicated machinery employed in the production of general happiness, it is objected, that the vindictive hatred of vice, so necessary to the preservation of virtue, is diminished by the thought that the criminal is to be punished for the same fault by a judge more terrible in his wrath, and less bounded by time, than those whose sentence extends only over a small portion of the criminal’s existence. The effect, however, will surely be contrary, if the justice of God, as well as his power and disposition to punish, be admitted by the pious believer; for the idea of deserved punishment being thus continually

associated with the idea of offence, all the disagreeable feelings which attend the idea of punishment will be suggested by that of guilt, and will thus render it doubly hateful, in the same manner as the idea of poverty becomes doubly hateful to those who could submit to the absolute physical privations which it causes, from suggesting the disagreeable feelings excited by that contempt which usually follows indigence. There is also another mode in which religion acts in the aggravation of moral guilt. It furnishes a new relation which is violated; and we hate the sinner not merely for injuring man whom we love, but for contemning likewise the adorable Being whom we revere. That man is frequently led by creeds and rituals to console himself in the mysterious pomp of complicated forms, for his neglect of the simple principles of useful activity, is a remark unfortunately verified by experience. But this only tends to show still more clearly the influence of religious opinion if properly directed. It is a concurring force which adds equally to the momentum of bodies, whether the line in which they move be that of virtue or of vice. If the religion of Moloch could lead the half-unwilling mother in dreadful procession to the fire which was about to receive the infant that clung smiling round her neck, can we suppose that a religion of benevolence would be scorned, which, mixing the solemnity of divine command with the sweet eloquence of nature, should teach the parent that his purest worship was the protection of that helplessness which heaven had trusted to his love? Would desire be rendered less powerful by the addition of new motives, and virtue cease when it became devotion? Is there so great a love of misery in man that he would submit to the feverish repose of a bed of spikes, that he would lacerate his limbs with daily penance, and consume his strength with the pangs of voluntary hunger, while, with the same motives of obedience to the awardest of eternity, he would be unwilling to partake of the luxury of tranquil life, and to praise with the thankfulness of enjoyment! But the most important effect of religion is the reality which it gives to the idea of obligation. The belief of the doctrine of necessity prepares the mind for the denial of any essential difference of morality; and it is the advantage of piety, that it arrests scepticism in this most dangerous of its stages, by referring to the sanction of the divine will: we believe, and we cease to inquire. Let those who deny the utility of religion conceive a world without it, a world of Enquirers, of Necessarians, of Indifferentists. They will find comfort in reflecting, that it is not the scene around them, but a picture of imagination, and will allow the importance of that principle which, if it be false, preserves from the evils of truth, and checks enquiry only where enquiry is dangerous.’

In the summer of 1814 he finished his *Paradise of Coquettes*, a publication on which his fame as a poet chiefly rests. A part of it had been written nearly six years: it was published anonymously in London. To this succeeded, in 1815, *The Wanderer of Norway*, and, in 1816, *The Bower of Spring*, as the works of The Author

of the Paradise of Coquettes. In the following year he lost his amiable and excellent mother, to commemorate whose virtues he composed his *Agnes*, published in 1818. A real mother's smile was never more beautifully described.

But age has still, all gentle and benign,
Another form,—and O! that form was thine;—
The smile, which youth, when gayer eyes are round,
Oft turns to seek,—more happy, when 'tis found;
The glance that bids but wrath or sorrow cease;
The peaceful voice, which but to hear is peace;
The temper, milder, as the years that part
Loose many a ruffling care which galled the heart;
And all the soul, to holiest wishes given,
More pure, more heavenly, as still nearer heaven.

His poem *Emily* succeeded the above in 1819. His biographer admits that his fame as a philosopher suffered by this evident devotion to the Muses: but pleads in extenuation, the rapidity with which he arrived at the knowledge of all the abstruse questions of moral philosophy, and the weariness that the further investigation of them excited in his mind! We must leave the facts and this singular plea with the reader, regretting still that in his important situation, and for a philosopher so gifted, such an apology should be necessary—as also that we cannot here indulge ourselves with extracting some of those beautiful productions of his muse, which will prove his best defence at the bar of posterity.

In the summer of 1819 he began to print the first part of his Course of Lectures, and returned to Edinburgh in the autumn, apparently in high health: but just before the Christmas vacation he became unwell, and confined himself during the holidays to his house. His only complaint at this time seemed to be an encreasing quickness of pulse when composing, and a feeling of weakness. When he again met his class the lecture unhappily was one of great moral interest. It is the thirty-fifth in the printed course. He was observed to repeat with unusual emphasis the extract from *Beattie's Hermit*—concluding with—

Nor yet for the ravage of winter I mourn,
Kind nature the embryo blossom will save,
But when shall spring visit the mouldering urn
O! when shall it dawn on the night of the grave?

and this was the last lecture he delivered. He was now compelled to find a substitute in Mr. John Stewart, and the regret he felt at being unable to attend his class is said to have rapidly increased his disorder. In the beginning of February he retired to the country seat of his friend Dr. Charles Stewart; and here a dreadful storm, succeeded by heavy falls of snow, evidently shattered his declining frame. His biographer visited him here for the last time, and found him in bed. The very first look impressed him, he says, with the mournful presage that there was nothing to hope. His face was pale, his cheeks excessively sunk; but, amidst the death of every other feature, his eye had all its former mild intelligence. He complained at this time that his friends pressed him to go abroad; and consented with reluctance shortly after to undertake a voyage to London. At sea he felt relieved, es-

pecially when the vessel was in rapid motion, and revived a little at Brompton; but soon gradually sunk into the most distressing weakness, and finally died in his drawing-room on the 2nd of April, 1820, suddenly, but without the least apparent pain.

The character of Dr. Brown as a philosopher is already too well estimated to require any further comment here. We are particularly pleased with the gentleness and sweet domestic manners with which it was united in this distinguished person: and the eulogium of his man-servant surpasses that of many that 'mark the marble' of such tombs as his. 'My master always had a happy face, but it never looked so happy as when he was coming in at his own door.' To his mother and sister he read everything he wrote, often more than once; and so enjoyed his family circle, that, after being called to the moral philosophy chair, he allowed himself only two days in the week to go abroad. So perfect, it is said, was his command over his temper, that an angry word was hardly ever heard from him. Yet he never submitted to disrespectful treatment; a look of his would instantaneously produce the most perfect silence among his pupils. 'In affection, as a son and brother,' says his warm friend and biographer, Mr. Welsh, 'he was unequalled. He was kind and considerate as a master, and his friendship was truly invaluable.' As a poet, he is of the school of Pope, and has many claims to be ranked as 'a brother—near the throne.'

Brown (William), a late eminent engraver of gems, was in early life much patronised by the empress Catharine of Russia, in whose cabinet his best specimens are preserved. He was afterwards employed at Paris by Louis XVI., and, being driven by the revolution to England, produced a beautiful set of portraits, now the property of his Majesty. He died in John-street, Fitzroy-square, July 20th, 1825, aged seventy-six.

BROWN-BILL, *n. s.* From brown and bill. The ancient weapon of the English foot; why it is called brown I have not discovered; but we now say brown musket from it.

And *broun-bills*, levied in the city,
Made bills to pass the grand committee. *Hudibras.*

BROWNE (George), archbishop of Dublin, and the first prelate who embraced the doctrines of the reformation in Ireland, was originally an Austin-friar of London, and was educated near Halywell, Oxford. He afterwards became provincial of his order, and having obtained his degree of D. D. abroad, was admitted to the same at Oxford and Cambridge, in 1534. After reading Luther's writings he began to teach the people. This recommended him to Henry VIII. who, in 1535, promoted him to be archbishop of Dublin, and nominated him one of the commissioners for abolishing the papal supremacy in Ireland. In 1551 king Edward VI. gave him the additional honor of primate of all Ireland; but in 1554 he was deposed by queen Mary, on pretence of his being married. He published a work against keeping the Scriptures in the Latin tongue, and against the worship of images. He died in 1556.

BROWNE (William), an English poet of the seventeenth century, born at Tavistock, in 1590. He was sent to Exeter College, Oxford, in the beginning of the reign of James I. and became tutor to Robert Dormer, afterwards earl of Carnarvon. After he had left college with his pupil, he was taken into the family of William earl of Pembroke. His poetical works procured him great reputation. They are, 1. *Britannia's Pastorals*. The first part was published at London, 1616, in folio; and ushered into the world with verses by his friends John Selden, Michael Drayton, Christopher Cook, &c. The second part was printed at London in 1616, and recommended by verses written by John Glanville, (afterwards eminent in the law) and others. 2. *The Shepherd's Pipe*, in seven eclogues. Lond. 1614, in 8vo. 3. *An Elegy on the never enough bewailed death of prince Henry*, eldest son of king James I.

BROWNE (Sir Thomas), M. D. now principally known as the author of *Vulgar Errors*, was of respectable parentage, and was left an ample fortune by his father, who died young. He was educated at Winchester and Oxford, and was the first man of eminence, as Ward observes, who graduated at Pembroke College. He devoted himself to the study of physic, and having taken his degree of A.M. practised for a short time in Oxfordshire. After this he visited his mother, who was then with her second husband, Sir Thomas Dutton, in Ireland, and travelled over a great part of that country with his father-in-law. He now went to France, and spent some time at Montpellier; visited Padua; and thence proceeded to Leyden, where he continued until he took his doctor's degree. This was about the year 1633. There is no authentic account of his travels. 'To consider, therefore,' says Dr. Johnson, 'what pleasure or instruction might have been received from the remarks of a man so curious and diligent, would be voluntarily to indulge a painful reflection, and load the imagination with a wish, which, while it is formed, is known to be vain. It is, however, to be lamented, that those who are most capable of improving mankind, very frequently neglect to communicate their knowledge; either because it is more pleasing to gather ideas than to impart them, or because to minds naturally great, few things appear of so much importance as to deserve the notice of the public.'

In 1764 was published, in London, his *Religio Medici*, the MS. of which, as Browne alleged, was obtained surreptitiously, but Johnson regards this as a mere stratagem of authorship. On this Sir Kenelm Digby published observations, which are now generally bound up with it. The remarks are acute and ingenious, but what seems most wonderful is, that it cost the writer only twenty-four hours in procuring, reading, and making annotations on the book. The *Religio Medici*, was soon after translated into Latin by Mr. Merryweather, a gentleman of Cambridge, and from his version it was again translated into Italian, German, Dutch, and French. An edition of the Latin version was published at Strasburg, with large notes by L. Nicolaus Moltfarius. The peculiarities of this book raised the author many admirers, and many enemies; it was only,

however, professedly answered by one writer, Alexander Ross, in a work entitled *Medicus Medicatus*, which was never much noticed. In 1637 he was incorporated M. D. in the university of Oxford, and then settled at Norwich as a physician, where he obtained considerable practice. Shortly after, his reputation procured his admission as an honorary member of the Royal College of Physicians, London. In 1641 he married Mrs. Dorothy Mileham, a lady of a good family in Norfolk, and of great personal as well as mental endowments; but the qualities of the lady did not protect him from the sarcasms of the wits, who remembered that he had described the taking a wife as 'the foolishlest thing a wise man did.'

In 1646 appeared his *Pseudoxia Epidemica*, or *Treatise on Vulgar Errors*, a work received like the former, with great applause. Amongst these errors he ranks the Copernican system, and mentions the idea of the earth's motion more than once with perfect contempt. 'He was not unwilling to pay labor for truth,' says Johnson, 'and combats with great learning and ingenuity, numerous notions or opinions on natural and other objects, which had obtained general credit, not only among the common people, but among physicians and other literary persons.' In the latter part of his life we apprehend, however, that a little labor might have brought him better acquainted with the brilliant discoveries of some of his contemporaries. In 1658 he published *Hydriotaphia*, or *Discourse on Urn-burial*, together with the garden of Cyrus, or the Quincunxial Lozenge, or Net-work Plantation of the Ancients, &c. a work sufficient of itself to establish his claim to prodigious learning: was knighted in 1671 by Charles II. as he passed through Norwich; and died in that city, on his seventy-seventh birth-day, in 1682.

He left several tracts, says Whitefoot, in his closet, which he intended to publish; and two collections of them made their appearance, one edited by Dr. Jennison, the other in 1722 by an anonymous editor. Dr. Johnson's fine observations on his style we cannot omit. 'It is not on the praises of others, but on his own writings, that he is to depend for the esteem of posterity of which he will not easily be deprived, while learning shall have any reverence among men; for there is no science in which he does not discover some skill, and scarcely any kind of knowledge, profane or sacred, abstruse or elegant, which he does not appear to have cultivated with success. His style is vigorous, but rugged; learned, but pedantic; deep, but obscure; it strikes, but does not please. His tropes are harsh and his combinations uncouth. In defence, however, of his uncommon words and expressions, it should be considered, that his sentiments were uncommon, and that he was not content to express in many words, that idea for which any language could supply a single term.' As Browne has been accused of infidelity, the following extract, from his *Treatise on Urns*, may do some justice to his sentiments on the subject of a future state; and will, at the same time, exhibit some characteristics of his style. 'With these hopes Socrates warned his doubtful spirits against the cold potion; and Cato, before he durst give the fatal stroke, spent part of the

night in reading the immortality of Plato, thereby confirming his wavering hand unto the animosity of that attempt.—It is the heaviest stone that melancholy can throw at a man to tell him he is at the end of his nature; or that there is no further state to come, unto which this seems progressional, and otherwise made in vain: without this accomplishment, the natural expectation and desire of such a state were but a fallacy in nature: unsatisfied considerators would quarrel at the justness of the constitution, and rest content that Adam had fallen lower, whereby, by knowing no other original, and deeper ignorance of themselves, they might have enjoyed the happiness of inferior creatures; who in tranquillity possess their constitutions, as having not the apprehension to deplore their own natures; and being framed below the circumference of these hopes of cognition of better things, the wisdom of God hath necessitated their contentment.'

BROWNE (Isaac Hawkins), an ingenious English poet, born at Burton upon Trent, January 21st 1705-6; of which place his father was the minister. He received his grammatical instruction first at Litchfield, then at Westminster; whence, at sixteen years of age, he was removed to Trinity College, Cambridge. He remained there till he had taken the degree of M. A. and about 1727 settled in Lincoln's Inn, where he devoted more of his time to the muses than to the law. He wrote several poems, particularly one on Design and Beauty, which he addressed to Mr. Highmore the painter, for whom he had a great friendship: and the Pipe of Tobacco; in imitation of Cibber, Ambrose Philips, Thomson, Young, Pope, and Swift, who were then all living. This is reckoned one of the most pleasing and popular of his performances. In 1743-4 he married the daughter of Dr. Trimmell, archdeacon of Leicester. He was twice chosen to serve in parliament, in 1744 and 1748, for the borough of Wenlock in Shropshire; near which place he had a considerable estate, left by his maternal grandfather, Isaac Hawkins, Esq. In 1754 he published what was deemed his principal work, *De Animi Immortalitate*, in two books; in which, besides a most judicious choice of matter and arrangement, he is thought to have shown himself a happy imitator of Lucretius and Virgil. The great popularity of this poem produced several English translations of it; the best of which is that by Soame Jenyns, printed in his *Miscellanies*. Mr. Browne intended to have added a third part, but left only a fragment. This excellent person died, after a lingering illness, in 1760, aged fifty-five. In 1768 his son Hawkins Browne, Esq. published an elegant edition of his father's poems, in large 8vo. to which is prefixed a print of the author, from a painting of Mr. Highmore, engraved by Ravenet.

BROWNE (William G.), an English traveller, visited the kingdoms of Darfur and Bornou in the interior of Africa, and was the first who made those countries known to Europeans. Returning to England he published in 1799 '*Travels in Africa, Egypt, and Assyria, from 1792 to 1798,*' 4to. He subsequently went to Asia, and in a journey through Persia, about 1814, lost his life under circumstances which have never been

fully understood. He had staid some time at Constantinople, to perfect himself in the Turkish language; and thinking it would facilitate his progress among the Asiatic tribes, he assumed the Turkish costume. Thus equipped he set off with an intention to penetrate through Khorasan, and then visit the Caspian and Astrachan. During the early part of his journey he had a conference with Sir Gore Ouseley, the British ambassador; and at Oujon was admitted to an audience of the king of Persia. Proceeding on his route, he reached the pass of Irak, where he stopped to take some refreshment. He now mounted his horse, and, leaving the servant to pack up and follow him, rode gently forward along the mountains; but had scarcely gone forward half a mile, when two men on foot suddenly coming behind him, one of them with a club struck him senseless from his horse. Several others instantly made their appearance, and bound him hand and foot. As soon as he recovered the use of his faculties, he saw the banditti plundering his baggage, with which his servant had in the mean time come up. He was told by the wretches into whose hands he had fallen, that they intended to put an end to his life, though not in that place. Finding expostulation useless, and incapable of resistance, he merely entreated them to spare his servant, and allow him to depart with his papers, which could be of no use to them. This they agreed to; and what will appear more singular, the assassins, who might be supposed to consider arms as acquisitions of the utmost importance, made the man a present of his master's pistols and double-barrelled gun. They then suffered Mr. Browne to see his servant safe off, who immediately returned to Tabreez, and related what had occurred. Abbas Mirza, prince of Persia, now despatched several parties of horsemen to search the pass of the caravanserai and its neighbourhood, and in a valley on the opposite side of the mountain they found the corpse of the unfortunate traveller, which had been left naked and exposed to the beasts of the forest. It was by the prince's orders conveyed to Akhand, and interred. See *Sir R. K. Porter's Travels in Georgia, Persia, &c.* 4to.

BROWNEA, or BROWNIA, in botany, a genus of the endecandria order, in the monadelphia class of plants: CAL. bifid; COR. double, the exterior quinquefid, and the interior pentapetalous; legume unilocular. Species four; all natives of South America, and magnificent plants; especially *B. coricea* and *B. rosa de monte* with heads of red flowers as large as a cocoa-nut.

BROWNISTS, a religious sect, which sprung out of the Puritans, towards the close of the sixteenth century: so named from their leader, Robert Brown, which see. They were also called Barrowists, from another of their preachers. To avoid the persecutions of the English bishops, Brown, with his congregation, left the kingdom, and settled at Middleburgh in Zealand; where they obtained leave of the states to worship God in their own way, and form a church according to their own model; which they had not long done before they began to differ among themselves, and divide into so many parties, that

Brown, their pastor, grew weary of his office; and returned to England in 1589. This was attended with the dissolution of the church at Middleburgh; but the seeds of Brownism, sown in England, were so far from being rooted out, that Sir Walter Raleigh in a speech, in 1592, computes no less than 20,000 Brownists. The occasion of their separation was not the faith, but only the discipline and form of government of the churches in England. They equally charged corruption on the episcopal and presbyterian forms; nor would they join with any other reformed church, because they were not assured of the sanctity and regeneration of the members that composed it; on account of the toleration of sinners, with whom they maintained it an impiety to communicate. They condemned the solemn celebration of marriages in the church; maintaining, that matrimony being a political contract, the confirmation thereof ought to come from the civil magistrate; an opinion in which they are not singular. They would not allow any children to be baptised of such as were not members of the church, or of such as did not take sufficient care of those baptised before. They rejected all forms of prayer; and held that the Lord's prayer was not to be recited as a prayer, being only given for a rule or model whereon all our prayers are to be formed. Their form of church government was democratical. When a church was to be gathered, such as desired to be members made a confession of it, and signed a covenant, by which they obliged themselves to walk together in the order of the gospel. The whole power of admitting and excluding members, with the decision of all controversies, was lodged in the brotherhood. Their church officers were chosen from among themselves, for preaching the word, and taking care of the poor, and separated to their several offices by fasting, prayer, and imposition of hands of some of the brethren. But they did not allow the priesthood to be any distinct order. As the vote of the brotherhood made a man a minister, and gave him authority to preach and administer the sacraments among them, so the same power could discharge him from his office, and reduce him to a mere layman again. And, as they maintained the bounds of a church to be no greater than what could meet together in one place and join in one communion, so the power of these officers was prescribed within the same limits. The minister or pastor of one church could not administer the Lord's supper to another, nor baptise the children of any but those of his own society. Any lay brother was allowed the liberty of giving a word of exhortation to the people; and it was usual for some of them, after sermon, to ask questions, and reason upon the doctrines that had been preached. In a word, every church on their model is a body corporate, having full power to do everything which the good of the society requires, without being accountable to any class, synod, convocation, or other jurisdiction whatever. Most of their discipline has been adopted by the Independents, a party which afterwards arose from among the Brownists. The laws were executed with great severity on the Brownists; their books were prohibited by queen Elizabeth, and their persons imprisoned, and many of them

were hanged. The ecclesiastical commission, and the star-chamber, distressed them to such a degree that they resolved to quit their country. Accordingly, many families retired and settled at Amsterdam, where they formed a church, and chose Mr. Johnson their pastor; and after him Mr. Ainsworth, author of the learned commentary on the Pentateuch. Their church flourished near 100 years. See INDEPENDENTS.

BROWNSTUDY, *n. s.* From *brown* and *study*. Gloomy meditations; study in which we direct our thoughts to no certain point.

They live retired, and then they doze away their time in drowsiness and *brown studies*; or, if brisk and active, they lay themselves out wholly in making common places. *Norris.*

BROWNSVILLE, or Redstone Old Fort, a flourishing post town of Pennsylvania. It is situated in Fayette county, on the south-east bank of Monongahela river, between Dunlop and Redston creeks; over the former a bridge has been erected, which connects Bridge-port, a small village on the opposite side of the creek, with Brownsville. It is 260 feet long, fourteen broad, and thirty-six feet in height. The town is laid out in regular streets, crossing each other at right angles. Boats are built here for trade and emigration to Kentucky. It is thirty-five miles south by east of Pittsburgh, twelve north-west of Union, twenty-five south-east by east of Washington, and 310 west of Philadelphia.

BROWNY, a serviceable kind of sprite, who, according to a superstitious notion, formerly prevalent in the Hebrides and Highlands of Scotland (as well as among the country people in England, where he had the name of Robin Goodfellow), was wont to clean the houses, help to churn, thresh the corn, and belabor all that pretended to make a jest of him. He was represented as stout and blooming, had fine long flowing hair, and went about with a wand in his hand. He was the very counter part of Milton's Lubber Fiend.

BROWSE, *v. & n.* *Ital. broscare; Fr. brouiller; Eng. } ter; from Lat. abrodo, or βρωσκω.* See **BRUSHWOOD**. To feed on young shoots or branches of trees.

And being down, is trod in the dirt
Of cattle, and *broused*, and sorely hurt. *Spenser.*

Thy palate then did deign
The roughest berry on the rudest hedge:
Yea, like the stag, when snow the pasture sheets,
The barks of trees thou *broustedst*. *Shakspeare.*

They have scared away two of my best sheep; if
any where I have them, 'tis by the sea-side, *brousing*
on ivy. *Id.*

The greedy lioness the wolf pursues,
The wolf the kid, the wanton kid the *browse*. *Dryden.*
Could eat the tender plant, and, by degrees,
Browse on the shrubs, and crop the budding trees.
Blackmore.

On that cloud-piercing-hill,
Plinlimmon, from afar, the traveller kens,
Astonished, how the goats their shrubby *browse*
Gnaw pendent. *Philips.*
But, peering down each precipice, the goat
Brouseth. *Byron. Child Harold.*

BROWTING; *brouter*; among the French gardeners, signifies breaking off the tips of the slender branches of trees, when too long in proportion to their strength.

BRUCE (James), Esq. of Kinnaird, F. R. S., one of the most celebrated travellers known in history, was born at Kinnaird in Stirlingshire, December 14th, 1728. He was instructed in classical learning at Harrow. Returning to Scotland, he intended to study the law; but, from the barbarity of his step-mother, a daughter of the late Governor Glen, he resolved to push his fortune in the East Indies. But, not procuring an appointment in the Company's service, he engaged in partnership with Mr. Allen, merchant, London, whose daughter he married, but lost within a year after. To dispel grief he travelled, but, his father dying in 1758, he returned to Britain to take possession of the inheritance of his ancestors. About this time Lord Chatham intended to employ Mr. Bruce upon a particular service, but his resignation soon after put it out of his power. Similar intentions were entertained by Lord Egremont, but his lordship's death prevented the fulfilment. It fell to the lot of the earl of Halifax to do more than fulfil the intentions of his predecessors, by pointing out a scene of action to Mr. Bruce, where his abilities have since been exerted with so much honor to himself and his country. To explore the coast of Barbary; to investigate its natural history, ancient architecture, and other curiosities, hitherto little known or illustrated by former travellers; and to make large additions to the royal collection; were the outlines of his lordship's plan. To discover the source of the Nile was also mentioned, but rather as an object to be wished than hoped for, from so young a traveller. The resignation of the consul of Algiers at this time, and the death of his newly appointed successor, favored the earl's plan; who pressed Mr. Bruce to accept of the consulship; which he did the more cheerfully, that the transit of Venus was at hand, which he hoped to see from Algiers. Within a year after his arrival there he qualified himself, by the acquisition of the Arabic, to appear without an interpreter. At Algiers he was detained longer than he expected, in consequence of a dispute with the Dey concerning Mediterranean passes. The business being adjusted, he proceeded to Mahon, and from Mahon to Carthage. He afterwards visited Tunis and Tripoli, and travelled over the interior parts of those states. At Bengazi, a small town on the Mediterranean, he suffered shipwreck, and with extreme difficulty saved his life, though with the loss of all his baggage. He afterwards sailed to the isles of Rhodes and Cyprus; and, proceeding to Asia Minor, travelled through a considerable part of Syria and Palestine, visiting Latakia, Aleppo, and Tripoli, near which last city he was again in imminent danger of perishing in a river. The ruins of Palmyra and Baalbec were next carefully surveyed and sketched by him; and his drawings of these places are deposited in the king's library at Kew; the most magnificent present, in that line, to use his own words, 'ever made by a subject to his sovereign.' Bruce now prepared for the grand expedition, the accomplishment of which had ever been nearest his heart, the discovery of the source of the Nile. In the prosecution of that great and dangerous object, he left Sidon on the 15th of

June 1768, and arrived at Alexandria on the 20th of that month. He proceeded from thence to Cairo, where he continued till the 12th of December, when he embarked on the Nile, and sailed up that river as far as Syene, visiting in the course of his voyage the ruins of Thebes. Leaving Kenne on the Nile, 16th of February 1769, he crossed the desert of the Thebaid to Cosseir on the Red Sea, and arrived at Jidda on the 3d of May. In Arabia Felix he remained, not without making several excursions, till the 3d of September, when he sailed from Loheia, and arrived on the 19th at Masuah, where he was detained near two months by the treachery and avarice of the Naybe of that place. It was not till the 15th of November that he was allowed to quit Arkeko near Masuah; and he arrived 15th of February 1770 at Gondar, the capital of Abyssinia, where he ingratiated himself with the most considerable persons of both sexes belonging to the court. Several months were employed in attendance on the king; and in an unsuccessful expedition round the lake of Dambea. Towards the end of October, Bruce set out for the source of the Nile, at which long desired spot he arrived on the 14th of November; and his feelings on the accomplishment of his wishes cannot better be expressed than in his own words: 'It is easier to guess than to describe the situation of my mind at that moment; standing in that spot which had baffled the genius, industry, and enquiry of both ancients and moderns, for the course of nearly 3000 years. Kings had attempted this discovery at the head of armies, and each expedition was distinguished from the last, only by the difference of the numbers which had perished, and agreed alone in the disappointment which had uniformly and without exception followed them all. Fame, riches, and honor, had been held out for a series of ages to every individual of those myriads those princes commanded, without having produced one man capable of gratifying the curiosity of his sovereign, or wiping off the stain upon the enterprise and abilities of mankind, or adding this desideratum for the encouragement of geography. Though a mere private Briton, I triumphed here in my own mind over kings and their armies; and every comparison was leading nearer and nearer to the presumption, when the place itself where I stood, the object of my vain glory, suggested what depressed my short-lived triumphs. I was but a few minutes arrived at the source of the Nile, through numberless dangers and sufferings, the least of which would have overwhelmed me, but for the continual goodness and protection of Providence; I was, however, then but half through my journey, and all those dangers which I had already passed, awaited me again on my return. I found a despondency gaining ground fast upon me, and blasting the crown of laurels I had too rashly woven for myself.' He now bent his thoughts on his return to his native country, and arrived at Gondar 19th of November 1770; but found, after repeated solicitations, that it was not an easy task to obtain permission to quit Abyssinia. A civil war in the mean time breaking out, no uncommon occurrence in that barbarous country, several engagements took place between the king's forces and the rebels,

particularly three actions at Serbraxos, in May 1771. In each of them Bruce acted a considerable part; and, for his valiant conduct in the second, received as a reward from the king a chain of gold of 184 links; each link weighing $3\frac{1}{2}$ dwts., or somewhat more than $2\frac{1}{2}$ lbs. troy, in all. At Gondar, after these engagements, he again earnestly entreated to be allowed to return home, which was long resisted: but his health at last giving way, from the anxiety of his mind, the king consented to his departure, on condition of his engaging by oath to return to him in the event of his recovery, with as many of his kindred as he could engage to accompany him. After a residence of nearly two years in that wretched country, he left Gondar, Dec. 16th, 1771, taking the dangerous way of the desert of Nubia, in place of the most easy road of Masuah, by which he entered Abyssinia. He was induced to take this route from his experience of the savage temper of the naybe of Masuah. Arriving at Teawa, 21st March 1772, he found the sheik Fidele, at Atbara, the counterpart of the naybe of Masuah in every bad quality. By his intrepidity and prudence, however, and by making good use of his foreknowledge of an eclipse of the moon, which happened on the 17th of April, he was permitted to depart next day, and arrived at Senaar on the 20th. At this miserable and inhospitable place he was detained upwards of four months. This delay was occasioned by the villany of those who had undertaken to supply him with money; but at last, by disposing of 178 links of his gold chain, the well-earned trophy of Serbraxos, he was enabled to make preparations for his dangerous journey through the deserts of Nubia. He left Senaar on the 5th of September, and arrived on the third of October at Chendi, which he quitted on the 20th, and travelled through the desert of Gooz, to which village he came October 26th. On the 9th of November he left Gooz, and entered upon the most dreadful and dangerous part of his journey, the perils attending which he has related with a power of pencil not unworthy of the greatest masters. All his camels having perished, he was under the necessity of abandoning his baggage in the desert, and with the greatest difficulty reached Assouan upon the Nile, November 29th. After some days rest, having procured fresh camels, he returned into the desert and recovered his baggage, among which was a quadrant, of three feet radius, supplied by Louis XV. from the Military Academy at Marseilles, by means of which noble instrument, now deposited in the museum at Kinnaird, Mr. Bruce was enabled with precision and accuracy to fix the relative situations of the several remote places he visited. On the 10th of January 1773, after more than four years absence, he arrived at Cairo, where, by his manly and generous behaviour, he so won the heart of Mahomet Bey that he obtained a firman, permitting the commanders of English vessels belonging to Bombay and Bengal, to bring their ships and merchandise to Suez, a place far preferable, in all respects, to Jidda, to which they were formerly confined. Of this permission, which no European nation could ever before acquire, many English vessels have already availed themselves;

and it has proved peculiarly useful both in public and private despatches. Such was the worthy conclusion of his memorable journey through the desert—a journey, which, after many hardships and dangers, terminated in obtaining this great national benefit. At Cairo, Mr. Bruce's earthly career had nearly been concluded by a disorder in his leg, occasioned by a worm in the flesh. This accident kept him five weeks in extreme agony, and his health was not re-established till a year afterwards, at the baths of Poretta in Italy. On his return to Europe, Mr. Bruce was received with all the admiration due to so exalted a character. After passing some time in France, particularly at Montbard, with his friend the Comte de Buffon, by whom he was received with much hospitality, he at last revisited his native country from which he had been upwards of twelve years absent. On his return public curiosity was highly excited to see a narrative of his travels; but this was retarded by various circumstances.

At last, however, he found leisure to put his materials in order; and in 1790 his long expected work appeared in five large quarto volumes, embellished with many plates, maps, and charts. The work has been criticised and the author accused of vanity, and even of falsehood; some even asserted that he had never seen Abyssinia; but later travellers have confirmed most of his statements, which they themselves had not believed when first made by him. To one objection, the account which he gives of his prediction of an eclipse—the time of which, by some strange mistake, refers to Britain—no answer we believe was ever made. The story, indeed, seems to be taken from a similar occurrence which happened to Columbus.

There never, perhaps, existed a man better qualified for the hazardous enterprize he undertook than Mr. Bruce. His person was of the largest size, his height exceeding six feet, and his bulk and strength proportionally great. He excelled in all corporeal accomplishments, being a hardy, practised, and indefatigable swimmer, trained to exercise and fatigue of every kind, and his long residence among the Arabs had given him a more than ordinary facility in managing the horse. In the use of fire-arms he was unerring; and his dexterity in handling the spear and lance on horseback was also uncommonly great. He was master of most languages, understanding the Greek perfectly; and was so well skilled in Oriental literature, that he revised the New Testament in the Ethiopic, Samaritan, Hebrew, and Syriac, making many useful notes and remarks on difficult passages. He had applied from early youth to mathematics, drawing, and astronomy: and had acquired some knowledge of physic and surgery. His memory was astonishingly retentive, his judgment sound and vigorous. He was dexterous in negotiation, a master of public business, animated with the warmest zeal for his king and country, a physician in the camp or city, a soldier and horseman in the field, while at the same time his breast was a stranger to fear, though he took every precaution to avoid danger. Of his learning and sagacity, his delineation of the course of Solomon's fleet from Tarshish to Ophir, his account

of the cause of the inundations of the Nile, and his comprehensive view of the Abyssinian history, afford ample proofs. He was preparing a second edition of his travels for the press, when he died, April 27th, 1794, in consequence of a fall down his own stairs, in the sixty-sixth year of his age.

BRUCE (Robert), son of the earl of Carrick, being competitor with Baliol for the crown of Scotland, lost it by the arbitration of Edward I. of England, for generously refusing to hold that crown as dependent on him, which his ancestors had left him independent.

BRUCE (Robert), grandson of the preceding, when Baliol broke his agreement with Edward, was easily persuaded to side with him against Baliol, upon promise that he would settle him on the throne. Having contributed much to the breaking of Baliol's party, he demanded the accomplishment of king Edward's promise, who is said to have given him this answer: 'What! have I nothing else to do but to conquer kingdoms for you?' He, however, recovered his crown, defeated the English in several battles, raised the glory of the Scots, and extended their dominions. See SCOTLAND.

BRUCEA, in botany, a genus of the tetrandria order, belonging to the diœcia class of plants.

BRUCHHAUSEN, a county of Westphalia, lying on the Weser, in Hanover, near the territory of Bremen. It is composed of the two towns of the Old and New Bruchhausen, each with a town and bailiwick. They are about four miles asunder, and between five and six miles west of the town of Hoya.

BRUCHSAL, the head of a district in the circle of the Pfalz and Enz, in the grand duchy of Baden, is situated on the Salza. It is well built, especially the suburbs of St. Peter and St. Paul, and has seven churches. The population is about 6000. The principal public buildings and institutions are the elegant castle, formerly the residence of the bishop, a Catholic academy, founded in 1803, the town-house, and hospital. It is eleven miles south-east of Spire, and fifteen south of Heidelberg.

BRUCHIUS, in zoology, a genus of insects belonging to the order of coleoptera. The specific character of this insect is, body black; antennæ filiform, testaceous; feelers equal, filiform; lip pointed; thighs unarmed; head prominent; thorax tapering before; shells striate; species twenty-seven; scattered over the globe, of which the *B. seminarius* is the only one traced in our own country, and inhabiting our flowers. The other principal species are; 1. *B. bactris*, with smooth elytra, a hoary body, and the hind part of the thighs oval. It frequents the palm-trees of Jamaica. 2. *B. gleditsiæ*, with striated elytra, of the same length with the belly, a pitch-colored body, and green feelers. It is a native of America. 3. *B. granarius*, has black elytra; the fore-feet are red, and the hind-feet are denuded. It infests the seeds of plants in different parts of Europe. 4. *B. pecticornis*, with comb-shaped feelers longer than the body. It is a native of Barbary and China. 5. *B. pisi*, has gray elytra, interspersed with white spots, and a white

fundament with two black spots. It is a native of North America, and destroys whole fields of peas. It is now found in several of the southern parts of Europe, where it does great injury to the corn. 7. *B. theobromæ*, with whitish elytra, interspersed with black points. It frequents the theobromæ or chocolate-trees in the East Indies.

BRUCIA, or BRUCINE, a new vegetable alkali, lately extracted from the bark of the false angustura, or brucia antidysenterica, by M.M. Pelletier and Caventou. Its taste is exceedingly bitter, acrid, and durable in the mouth. When administered in doses of a few grains, it is poisonous, acting on animals like strychnia, but much less violently. It is not affected by the air. The dry crystals fuse at a temperature a little above that of boiling water, and assume the appearance of wax. At a strong heat it is resolved into carbon, hydrogen, and oxygen, without any trace of azote. It combines with the acids, and forms both neutral and super-salts.

BRUCKER (John James), a Lutheran clergyman, was born in 1696 at Augsburg, and studied at Jena. In 1724 he became rector of Kaufbeuren, and was, in 1731, chosen a member of the Berlin academy of sciences. He was afterwards pastor of St. Ulrich's, and senior minister in his native city, where he died in 1770. He was the author of several works and tracts on philosophy, but his most important production is his *Historia Critica Philosophiæ*, four volumes, 4to. which appeared in 1744, and with great improvements, in six volumes, 4to. 1767. This work acquired the general approbation of the learned, as the most copious and methodical history of philosophy ever written.—A judicious abridgment of it was published by Dr. Enfield, in 1791, two volumes, 4to.

BRUCKNER (John), a literary divine of the Lutheran persuasion, settled at Norwich; was born in the island of Cadsand in 1726, and received his education at Leyden and Franeker, after which he became pastor of the Walloon congregation at Norwich until his death, in 1804. He was author of—1. *Theorie du Systeme Animal*, which has been translated into English, under the title of a *Philosophical Survey of the Animal Creation*, 1768; in this work is some anticipation of the sentiments of Mr. Malthus' famous *Essay on Population*. 2. *Criticism on the Diversions of Purley*, in which he discovers great knowledge of the various Gothic and Hebrew dialects. 3. *Thoughts on Public Worship*, in answer to Gilbert Wakefield. He also commenced a didactic poem in French verse on the principles of his *Theorie*.

BRUGES, a large and opulent city of the Netherlands, the capital of West Flanders, and, during the domination of the French, the chief town of the department of the Lys. It is situated in a spacious plain, intersected by a great number of canals, about six miles from the sea. Before the French Revolution it formed, with its territory, a separate district. No river passes near it, but the canals leading to Sluys and Ostend bring up, at high water, vessels of from 200 to 300 tons. The trade and manufactures of Bruges were once

far more flourishing than at present. In the fourteenth century, under the dukes of Burgundy, it was one of the greatest places of commerce in Europe, forming an important branch of the Hanseatic confederacy, and carrying on a lucrative intercourse with England, Venice, &c. Towards the end of the fifteenth century it began to decline, Antwerp becoming its rival, and afterwards its superior. On the decay of the latter, by the shutting up of the Scheldt, Bruges partly recovered its prosperity, and still carries on a considerable trade with Ostend, Sluys, Ghent, and the north of Europe. It takes an active part in the herring-fishery. The exchange here is one of the earliest establishments of the kind in Europe, and still a fine building. During the great fairs the merchants expose their goods here, and the retail trade is carried on to a great extent. There is besides a chamber of commerce, a large insurance company, a dock-yard, and a navigation school. The population is about 45,000. The streets are in general wide and well-lighted, and the houses large. There are seven gates and six market-places. The principal public buildings are the lycée, formerly the celebrated convent of the Downs the town-house, the exchange, and the church of Notre Dame, having a lofty spire. The authorities are two burgomasters, twelve echevins, twelve councillors, ten pensioners, and two treasurers. In 1559 Bruges was made a bishopric by Paul IV., and continued so until it was taken possession of by the French army in 1794. At that time it contained not less than twelve convents for the different orders of both sexes; all of which were forthwith abolished. During his consulate Buonaparte annexed Bruges to the bishopric of Ghent, confiscated the revenues, and caused the cathedral church of St. Donatus to be demolished. It has long been the residence of a convent of English nuns, who, during the late stormy periods, fled to their native country, but have since returned, and enjoy their former revenues. In the church of Notre Dame the tombs of Charles the Brave and his daughter, Mary of Burgundy, are preserved. They are formed of touch-stone, and beautifully gilt, and though constructed in 1550 appear as perfect as if new. Bruges carries on a considerable trade in grain, particularly when the ports of England are open, likewise a good traffic in coarse lace, made by the female population, and some trade in linen. The manufactures of earthenware, &c. have dwindled to nothing. This city gave birth to John of Bruges, the inventor of painting in oil. The French entered it in the summer of 1794, and the town was soon after incorporated with the French empire, a part of which it remained till the fall of Buonaparte. In 1798 an English force, under general Coote, attempted to destroy the sluices between this place and Ostend: they succeeded in their object, but the greater part were made prisoners. Twelve miles east of Ostend, twenty-two north-east of Ghent, and thirty-three north-east of Dunkirk.

BRUIN (John de), professor of natural philosophy and mathematics at Utrecht, was born at Gorcum in 1620. He possessed great skill

in dissecting animals, and also in astronomy. He published dissertations *De Vi altrice*; *De Corporum Gravitate et Levitate*; *De Cognitione Dei Naturali*; *De Lucis Causâ et Origine*, &c. He had a dispute with Isaac Vossius, to whom he wrote a letter printed at Amsterdam, 1663; wherein he criticises Vossius's book *De Natura et Proprietate Lucis*; and strenuously maintains the hypothesis of Descartes. He died in 1675, after he had been professor twenty-three years.

BRUISE', *v. & n.* } *A.S. brysan*; *Teut. brisen*;
BRUIS'ER. } *Bel. bryzin*; *Arm. brisa*;
Fr. briser. See *To BRAY*. To crush, beat, and mangle. To press together so as to destroy the continuity of the parts.

Then searcht his secret woundes, and made a priefe
Of every place that was with bruizing harmed,
Or with the hidden fire too inly warmed. *Spenser*.

Fellows in arms, and my most loving friends,
Bruised underneath the yoke of tyranny. *Shakspeare*.

And fix far deeper in his head their stings,
Than temporal death shall *bruise* the victor's heel,
Or theirs whom he redeems. *Milton*.

One armed with metal, the' other with wood,
This fit for *bruise*, and that for blood. *Hudibras*.

I since have laboured
To bind the *bruises* of a civil war,
And stop the issues of their wasting blood. *Dryden*.

They beat their breasts with many a *bruising* blow,
Till they turn livid, and corrupt the snow. *Id.*

As in old chaos heaven with earth confused,
And stars with rocks together crushed and *bruised*.
Waller.

BRUISE, in mechanics, a concave tool used for grinding and polishing the specula of telescopes. It is made of brass, about a quarter of an inch thick, and hammered as near to the gage as possible. It is tinned on the convex side, and made equally broad at bottom and top. It serves to reduce the figures of the hones, when too convex, and to rub down any gritty matter that happens to be mixed with the putty, before the speculum is applied to the polisher.

BRUISING, in pharmacy, the operation of breaking or pounding a thing coarsely; frequently practised on roots, woods, and other hard bodies, to make them yield their juice more freely than they would do whole.

BRUIT', *v. & n.* *Arm. bruit*, *Fr. bruit*, *Span. ruido*, see *Rout*. To report, to spread a rumor; to make anything known with noise and clamor.

As slander's loathsome *bruit* sounds folly's just reward,
Is put to silence all betime, and brought in small regard,

Even so doth time devour the noble blast of fame,
Which should resound their glories great that do deserve the same. *Earl of Surrey*.

His death
Being *bruited* once, took fire and heat away
From the best tempered courage in his troops. *Shakspeare*.

I am not
One that rejoices in the common wreck,
As common *bruit* doth put it. *Id.*

It was *bruited*, that I meant nothing less than to go to Guiana. *Raleigh*.

A *bruit* ran from one to the other, that the king was slain. *Sidney*.

BRUMAIRE, i.e. the foggy month, French, from *brume*, fog, the second month in the French revolutionary calendar. It began October 22d. and ended November 20th, consisting of thirty days.

BRU'MAL, *adj.* Lat. *brumalis*. Belonging to the winter.

About the *brumal* solstice, it hath been observed, even unto a proverb, that the sea is calm, and the winds do cease, till the young ones are excluded, and forsake their nests. *Brown.*

BRUMALIS PLANTÆ, in botany, from *bruma*, winter; plants which flower in our winter; common about the Cape.

BRUMALIA, in Roman antiquity, festivals of Bacchus, celebrated twice a year; the first on the 12th of the kalends of March, and the other on the 18th of the kalends of November. They were instituted by Romulus, who during these feasts used to entertain the senate. Among other heathen festivals which the primitive Christians were much inclined to observe, Tertullian mentions the *brumæ* or *brumalia*.

BRUMALIS, in ornithology, a species of *emberiza*, found in the north of Italy, the *Brumal Bunting* of Latham

BRUMOY (Peter), a learned Jesuit, born at Rouen, in 1668, distinguished by his talents for the belles lettres. His works are 1. A History of the Gallican Church, 6 vols; 2. *Morale Chretienne*, 12mo.; 3. *Examen du Poeme sur la Grace*; 4. *La Vie de la Imperatrice Eleonora*; 5. *Theatre des Grecs, Contenant des Traductions et Analyses des Tragedies Grecques, des Discours et des Remarques Concernant la Theatre Grecque*, 3 vols. 4to. This very valuable performance was translated into English by Mrs. Lenox, who received assistance from Dr. Johnson and other able writers; 6. *History of the Revolutions of Spain*, 3 vols. 4to. He died at Paris in 1742

BRUN, BRAN, BROWN, BOURN, BURN, are all derived from the Saxon *bohn*, *bounn*, *brunna*, *bupna*; all signifying a river or brook.

BRUN (Charles Le), was born in 1619, of a family of distinction in Scotland. His father was a statuary by profession. He discovered such an early inclination for painting, that his father being employed in the gardens at Seguiers, the chancellor placed him with Simon Vouet an eminent painter. He was afterwards sent to Fontainebleau, to copy some of Raphael's pieces. He sent him next to Italy, and supported him there for six years. Le Brun, in his return, met with the celebrated Poussin, with whom he contracted a friendship which lasted as long as their lives. A painting of St. Stephen, which he finished in 1651, raised his reputation to the highest pitch. Soon after, the king made him his first painter, conferred on him the order of St. Michael, and spent two hours every day to see him work, while he was painting the family of Darius at Fontainebleau. About 1662 he began his five large pieces of the history of Alexander the Great, in which he is said to have set the actions of that famous conqueror in a more glorious light than Quintus Curtius has done in his history. He procured several advantages for the royal academy of painting and

sculpture at Paris, and formed the plan of another for the students of his own nation at Rome. The king gave him the direction of all his works, particularly of his royal manufactory at the Gobelins, where he had a handsome house with a large gallery. He was the author of two treatises; 1. On Physiognomy, and 2. On the Different Characters of the Passions. The pieces that gained him the greatest reputation were those which he finished at Fontainebleau, the great staircase at Versailles, and especially the grand gallery, which is the last of his works, and is said to have taken him up fourteen years. He died at Paris in 1690.

BRUNCK (Richard Francis Philip), a modern classical scholar and critic of the greatest reputation; he was a native of Strasburg, and educated by the Jesuits at Paris. He was made early in life a commissary at war and receiver of finances; but finally settled at Strasburg, and devoted all his leisure to the study of the Greek language. His Greek Anthology was first published at Strasburg in 1776, 3 vols. 8vo.; and followed in 1779 by Selections from the works of Æschylus, Sophocles, and Euripides, 2 vols. In 1780 appeared his edition of Apollonius Rhodius; and his Aristophanes in 1783. In 1785 he published an edition of Virgil; and in 1786 appeared the whole works of Sophocles, 2 vols. 4to. Brunck was now partially disturbed in his pursuits by the storms of the French Revolution, and became one of the first members of the popular associations at Strasburg. He was imprisoned at Besançon during the tyranny of Robespierre, on whose death he was liberated. In 1791 and 1801 our critic was under the necessity of selling portions of his fine library; which affected his composure to such a degree as to compel him to give up his Greek studies. He still, however, proceeded with the Latin poets; and in 1797 published a beautiful edition of Terence. He was preparing the works of Plautus for the press, when he died, June 1803.

BRUNDISIUM, or **BRUNDISIUM**, in ancient geography, a town of Calabria, with the best harbour in Italy. It was a very ancient town, and belonged originally to the Salentines; but was taken by the Romans about A.A.C. 256. It is now called **BRINDISI**; which see.

BRUNETT, *n. s.* Fr. *brunette*. A woman with a brown complexion.

Your fair women therefore thought of this fashion, to insult the olives and the *brunettes*. *Addison.*

BRUNIA, in botany, a genus of the monogynia order, and pentandria class of plants. The flowers are aggregate or clustered; the filaments inserted into the heels of the petals; the stigma is bifid; the seeds are solitary, and the capsule is bilocular. There are eight species, all Cape plants.

BRUNION, *n. s.* Fr. *brugnon*. A sort of fruit between a plum and a peach.

BRUNN, a circle and town of Moravia; the former, bounded by Bohemia on the north, and Austria on the south, contains about 1860 square miles, and a population of 299,960 individuals. Corn, flax, and large herds of cattle, are the chief produce. It also contains mines, medicinal springs, marble quarries, forges, alum-works and

glass-houses. Brunn is considered the capital of the kingdom, and has, besides the government offices, several large manufactures of fine woollen cloths and kersemeres. It is well supplied with coals, water, and other requisites for these works, and was once fortified; but the trenches are now well filled with tanneries, rope-yards, dye-houses, &c. The principal buildings are the church, with an elegant spire covered with copper, the state-house, the town-house, and the palace of prince Lichtenstein. Near it, on the top of a hill, stands the fortress of Spielberg, now used as a state-prison. The town and suburbs contain about 24,000 inhabitants. Here are very large fairs for general commerce, held quarterly. Brunn is 100 miles south-east of Prague.

BRUNNEUS, in entomology, a species of pinus, and also the name of a species of curculio, cimex, cryptocephalus, coluber, asilus, and elater.

BRUNNICIHA, in botany, a genus of plants, class decandria, order tryginia: CAL. five-cleft: COR. none: CAPSULE one-celled, many-seeded. Species one, a Bahama plant.

BRUNO, i. e. Brown, Ital. the Latin name assumed by the late Dr. Brown, in his *Elementa Medicinæ*; whence the epithet Brunonian.

BRUNO, Giordano, a dominican, born at Nolo, in Naples. About A. D. 1582 he began to call in question some of the tenets of the Romish church, which obliged him to retire to Geneva: but after two years stay there, he expressed his aversion to Calvinism in such a manner that he was expelled the city. After having staid some time at Lyons, Toulouse, and Paris, he came to London, and continued two years in the house of M. Castleneau the French ambassador. He was very well received by queen Elizabeth and the politer part of the court. His principal friends were Sir Philip Sidney and Sir Fulk Greville. With these, and some others of their club, Bruno held assemblies; and, at Sir Philip's request, he composed his *Spaccio della Bestia Trionfante*, which was printed in 8vo. 1584 and dedicated to that gentleman. This work, which is remarkable for nothing but its impiety, we are told in the *Spectator*, No. 389, sold at an auction in London for £30. From England he went to Wirtemberg, and thence to Prague, where he printed some tracts, in which he openly discovered his atheistical principles. After visiting some other towns in Germany, he made a tour to Padua; where he was apprehended by the inquisition, tried, condemned, and, refusing to retract, was burnt at the stake in Rome, February 9th, 1600.

BRUNONIAN SYSTEM, a system of medicine, discovered by the late Dr. Brown, and explained at large in his *Elements of Medicine*. It differs so widely from all former systems of that science, and made so extensive an impression on the medical world at the time of its appearance, that we think it consistent with propriety to delineate it under its own title. The following will give a sufficient view of its outlines, to such as are unacquainted with it: and for its minutiae we must refer to the Dr's own works, and those of Dr. Beddoes, Dr. Jones, &c.

The human body, particularly the system of solids it consists of, is a form of living matter,

whose characteristics are sensation and motion. The capability of being affected by external powers is termed excitability; the agents, stimuli, or exciting powers; the result excitement. Without this property (excitability), the body would be dead inert matter: By this property, it becomes living matter; by this property, called into action by the exciting powers, it becomes a living system. While the stimuli act on the excitability with a sufficient degree of power, then is the pleasant sensation of health; when they raise the excitement above this point, or depress it below it, disease takes place: when the stimuli cease to act, or the system to feel their power, death ensues. Excitability is a property of living matter, peculiar and inherent, but it is a property which Dr. Brown did not pretend to explain. He left it as Sir Isaac Newton did his Attraction, as a property not to be investigated. Of this energy or power, there is assigned to every living system, at the commencement of life, a certain quantity or proportion; but its quantity differs in each, and in the same body it is found to change, for the excitability, according to circumstances, may be abundant, increased, accumulated, superfluous, exhausted, consumed, &c. The stimuli, or exciting powers, are of two classes: external and internal. The external stimuli are heat, light, sound, air, and motion; food, drink, medicines, and whatever else is taken into the body, not excepting poisons and contagions. The internal are the functions of the body, the blood, the secretions, muscular exertion, and finally the powers of the mind, as sensation, passion and thought. Dr. Beddoes, we know not for what reason, ranks 'the blood and secreted fluids' among the external stimuli. Excitement is Life; the natural movements of the machine, and the functions resulting from these, as sensation, reflection, and voluntary motion; which, as they immediately flow from the exciting powers, are vigorous when they are strong, languid when they are weak, and cease when they are taken away entirely. Thus our body is continually moved by external agents, and life is a forced state. The frame has an unceasing tendency to dissolution, which is opposed only by the incessant application of exciting powers; which are the sources of life, and which being partially or completely withdrawn are immediately followed by disease or death. It is also a principle of this doctrine, that 'all stimuli by acting on the excitability exhaust it.' On awaking we feel a new power of excitement in every object around us; we are refreshed in the morning, and languid at night, and our whole life is an alternation of motion and rest, of action and sleep, of apathy and pleasure, of wasting our excitability by day in labor or enjoyment, and of recruiting it by night by the abstraction of all stimulant powers. The same philosophy extends to the duration of life: in childhood, excitability is abundant in quantity, as being little exhausted; but it is low in power, because the tender stamina, and accumulated excitability of children, can neither suffer nor support high excitement. Their excitability is so abundant, that they are easily supported by weak diet and low exciting powers, and therefore most of their diseases are diseases of

weakness. In youth and manhood the excitability is yet entire, the stamina are strong : the powerful stimuli are applied, and high passions prevail : these are the periods of vigor, and the æra of inflammatory disease. In old age the stamina are worn, the excitability is exhausted, the common stimuli have lost their power, and the system begins to decline ; we have weakness of body, imbecility of mind, and asthenic diseases. We may, last of all, have recourse to more generous diet, and raise the stimulant powers by substituting wine to water, or brandy to wine ; thus perhaps excitement may be a while supported, and life prolonged ; but in a few years, these also fail. This doctrine farther teaches, that the body is never moved but by exciting powers. None but stimuli affect our system. Health is the due operation of stimuli on a well regulated excitability, producing a moderate excitement, and a pleasant sensation ; moving the whole system with a just degree of power, and giving all the functions their due energy and tone. Asthenic disease, disease of debility or of weakness, is the result of stimuli applied in a low degree, or of the system less easily excited. Sthenic disease, or disease of strength, is the result of stimuli applied in too great a degree, or of a system too susceptible of excitement. The first is depression of excitement below the healthy state : it produces languid motions and functions ; and requires excitement for its cure. The second is a strong state of the system, wound up to too high a pitch of excitement. It is an exuberance of health and strength. It is marked by violent movements, and is cured by abstraction of stimuli. Thus are all our maladies either diseases of weakness or of excessive strength, and this is the foundation of the Brunonian scale, which has for its middle point health ; below that are arranged the diseases of weakness ; above it the diseases of excessive strength : and, in both divisions of the scale, diseases are so arranged, that the worst forms are set off at the greatest distance from the middle point, to mark them as the widest deviations from the healthy state.

‘The Brunonian system,’ says Dr. Beddoes, ‘has been frequently charged with promoting intemperance ; the objection is serious, but the view given of its principles shows it to be groundless. No writer has insisted so much upon the dependence of life upon external causes, or so strongly stated the inevitable consequences of excess : and there are no means of promoting morality upon which we can rely, except the knowledge of the true relations between man and other beings or bodies. For by this knowledge we are directly led to shun what is hurtful, and pursue what is salutary. It may be said that the author’s life disproves the justness of this representation. His life, however, only shows the superior power of other causes, and of bad habits in particular ; and I acknowledge the little efficacy of instruction when bad habits are formed. Its great use consists in preventing their formation, for which reason, popular instruction in medicine would contribute to the happiness of the human species. But though the principles of the system did not correct the propensities

of its inventor, it does not follow that they tend to produce the same propensities in others.’

Dr. Beddoes has, with great candor as well as judgment, pointed out a few of the imperfections of this doctrine. 1. He observes, that, as Dr. Brown ‘assumes, that a certain portion of excitability is originally assigned to every living system, by his very assumption, he denies its continual production, subsequent diffusion, and expenditure.’ Dr. Beddoes thinks that the brain is destined to secrete a successive supply of this principle. 2. He next objects against the Dr’s ‘uniformity of operation in stimulants.’—‘Heat and wine (he justly observes) can never act in the same manner, for no person is intoxicated by heat.’ He adds, ‘had it been once allowed by Brown, that the different constituent parts of the body bear a different relation to the same agents, he must have admitted the operation of specific stimulants to an unlimited extent.’ On the subject of Predisposition to Disease, he observes that ‘though facts have been noted, the principle lies involved in total obscurity. Brown does not purposely elude the difficulty, but his principles lead him beside it ; and we may doubt whether the term predisposition ought in strict propriety to have appeared in his Elements ; for predisposition is with him a slight disease, differing only in degree from that into which the person predisposed falls.’ 4. ‘There are several other opinions,’ he adds, ‘which, in a complete revival of the Brunonian system, would require particular examination, such as his doctrine concerning hereditary diseases,’ which Brown denies the existence of, ‘the peculiar state of sthenic inflammation, and the nature of the passions.’ 5. And in a note upon Brown’s preface, he styles the Dr’s opinion, that ‘nearly all the diseases of children depend on debility,’—‘a gross and dangerous error,’ though he admits that ‘thousands of them are cut off at an early period of life, and tens of thousands kept languishing in misery, by asthenic diseases, for want of ‘the necessities of life.’ This admission of Dr. Beddoes might have superseded his criticism. Dr. Brown did not say all diseases of children were asthenic. But if thousands and tens of thousands are, they may be surely said to be nearly all such. Neither Dr. Brown nor any man in his senses would prescribe stimulants in croup, peripneumony, or the first stage of whooping cough ; though we have known the most speedy and effectual cures performed by opium in this last disease, after the sthenic diathesis was gone.

Some have asserted that Dr. Brown borrowed the first idea of his doctrine from some hints thrown out by his then intimate friend Dr. Cullen ; but Dr. Beddoes, after quoting the passage from Cullen’s Institutions (parag. cxxx.), where excitement is mentioned, shows plainly that when Dr. Cullen wrote it, ‘his thoughts were turned from a living body to an electrical machine,’ and that ‘his idea of excitement has therefore nothing in common with that of Brown.’—Others have affirmed, that Dr. Brown only revived the old doctrine of the Methodic sect, and that Themison was the discoverer, and Thessalus and Soranus the improvers, of the doctrine now called Brunonian. But nothing can be more distant from the

truth than this. The methodic doctrine of stricture and relaxation bears no analogy to Brown's definitions of sthenic and asthenic diseases; and the doctrine of spasm itself is not more opposite to the Brunonian system, than Themison's notion of a third class of diseases, which partook of both stricture and relaxation. The truth is incontrovertible, that the discovery, such as it is, is wholly Brown's own. Dr. Darwin suggested an ingenious modification of this system; but the system itself has, of late, been almost entirely abandoned by medical men.

BRUNSFELSIA, in botany, a genus of the monogynia order, and pentandria class of plants. CAL. five-toothed, angular; cor. a long tube: CAPS. berried, one-celled, many-seeded. Two species, both natives of the West-Indies.

BRUNSVIGIA, in botany, a genus of plants class hexandria, order monogynia, natural order narcissi; essential characters, cor. superior, having six deep segments: CAPS. turbinate,

with three membranous wings: SEED. numerous and pointed. The species are, 1. *B. multiflora*, broad-leaved brunsvigia. 2. *B. marginata*, red edged brunsvigia. 3. *B. radula*, rasp-leaved brunsvigia. 4. *B. striata*, striated brunsvigia. These are all natives of the Cape of Good Hope.

BRUNSWICK, a duchy of Germany, in the former circle of Lower Saxony, and having for its boundaries Lüneburg on the north, Westphalia on the west, the duchy of Hesse on the south, and Magdeburg, Anhalt, and Halberstadt, on the east. It is sometimes considered in two distinct parts: the principality of Wolfenbüttele, and the county of Blankenburg, containing altogether about 1452 square miles, and a population of 208,700 persons, or nearly 144 persons to each square mile, and is, in its civil government divided into two cities and six districts, which, with their extent, population, and chief towns, have been thus exhibited;—

Districts.	Extent in Eng. Sq. miles.	Population.	Chief Towns.
Wolfenbüttele	456	56,593	Wolfenbüttele
Schöningen	296	32,880	Helmstadt
Hartz	209	19,841	Langelsheim
The Leine	95	15,748	Gandersheim
Weser	252	31,468	Stadtoldendorf
Blankenburg	144	16,317	Blankenburg
1452		208,697	

Brunswick and Wolfenbüttele are cities, ranking as distinct districts, the former containing a population of 29,050, and the latter 6,800 inhabitants. A late survey gives the following distribution of the surface of this duchy.

	Eng. Acres.
Under the plough	291,575
Under garden culture	16,752
In meadows	42,049
Pasture land	207,751
Woods and plantations	284,423
Fish-ponds and lakes	2,217

The most valuable are the mineral productions of the duchy, particularly its iron, the mines of which, with the marble and timber, are the chief basis of its revenue. The northern part is flat, but the southern district a mountainous region, forming the thickest part of the Hartz, and largely covered with forests. The lower tracts, besides abundance of timber, and metals, produce various kinds of grain. The rivers are the Weser, the Ocker, the Innerste, and the Leine. The principal exports,—rye, wheat, wool, linen, rape-seed, hops, vitriol, sulphur, zinc, and a few other articles, amount to two millions and a half of Rix-dollars annually. The imports are wine, sugar, tea, and coffee. The inhabitants are principally Lutherans; the whole of the Catholics and Calvinists being only estimated at between 3000 and 4000. About 3000 men includes the whole military establishment. The annual revenue arising from taxation is about £170,000 a year, but, in addition to this, the prince has a yearly income of about £210,000, from his patrimonial domains.

The illustrious house of Brunswick has been one of the most distinguished in history, and traces

its descent from Azo I., marquis of Este, in Italy, who died in 964. It consists of two branches, the Brunswick Lüneburg, and that of Brunswick Wolfenbüttele; the head of the former being the king of Great Britain and Hanover, and of the latter the duke of Brunswick Wolfenbüttele, the ruling prince of Brunswick, who holds the twelfth place in rank among the princes of the empire. In the modern arrangement of the German states it has its place in the third class.

Brunswick, the capital, is composed of five towns, viz. the Old Town, the New, the Hagan or Burg, the Old Wieck, and the Sack, which make it a large place, but the houses are almost all built of wood. There are several churches, one of which is an ancient Gothic building, but the appearance of its antiquity is almost absorbed by modern repairs. It is a fortified place, but not of much strength. The inhabitants carry on a considerable trade with Bohemia. Brunswick mum is well known in England; a small sort of which is the common drink of the inhabitants of the city. Here spinning-wheels are said to have been invented. The buildings most deserving of notice here, are the cathedral of St. Blasius, with the tombs of deceased members of the royal family; the Graue-Hof, the residence of the duke, originally a monastery, the public wine cellars, the exchequer, the meeting-house of the diet, the mint, the opera-house, the new town-house, and the arsenal. The Collegium Carolinum was founded in 1745, and affords instruction in the languages, arts, sciences, and polite exercises. Here are also two other academies. The manufactures beside mum, are wool, yarn, linen, porcelain, pasteboard, and paper-hangings. The great Brunswick fairs rank next

to those of Leipsic and Frankfort. Between 1807 and 1814, Brunswick was the capital of the department of the Ocker, in the kingdom of Westphalia. It is seven miles north of Wolfenbuttle, and forty-seven W.N.W. of Magdeburg.

BRUNSWICK, a maritime county of North Carolina, America.

BRUNSWICK, formerly the best built town in the above county, and one that carried on the most extensive trade; but having been burnt down in the year 1780, by the British, it has never since recovered.

BRUNSWICK, a town of New Jersey, United States of America, is situated on the south-west bank of the Rariton river. It contains about 2500 inhabitants, most of whom are Dutch. The commodious wooden bridge across the Rariton river, is about 200 paces long, and the only object worth notice. The part over the channel is contrived to draw up, and on each side is a footway, with rails and lamps. It carries on a considerable trade, and is eighteen miles north-east of Princetown, sixty north-east from Philadelphia, and thirty-five south-west from New York.

BRUNSWICK, a town of the United States, in Cumberland county, district of Maine, contains about 1400 inhabitants, and lies thirty miles north-east of Portland, and 151 north-east of Boston.

BRUNSWICK, a town of the United States, the chief town of Glynn county, Georgia, is situated at the mouth of Turtle river, in Simon's sound. It has a safe and capacious harbour. From its advantageous situation, and the fertility of the back country, it promises to be a most commercial and flourishing place. It is sixty miles S.S.W. from Savannah, and 110 south-east from Louisville.

BRUNSWICK NEW, one of the four British provinces in North America, bounded on the south by the bay of Fundy, on the west by the United States, and part of Lower Canada, on the north by Chaleur bay, and on the east by the gulf of St. Lawrence. Its chief towns are St. John's the capital, Fredericktown, St. Andrews, and St. Ann, the present seat of government. The rivers, St. John's, Magegadavick, or eastern river, Diewasset, St. Croix, Merrimichi, Petitcodiac, Memramcook; all, the three last excepted, falling into Passamaquoddy bay. St. John's river opens a vast extent of fine woody country, the pines of which are said to be the best yielded in America. The Passamaquoddy is surrounded with noble meadows. See AMERICA, BRITISH.

BRUNSWICK GREEN. This is an ammoniacumurate of copper, much used for paper-hangings, and on the continent in oil-painting. See COPPER.

BRUNSWICK (Ferdinand, duke of), a celebrated general of the last century, was born in 1721, and travelled in Holland, France, and Italy. Returning home in 1740, he entered the service of the king of Prussia, and soon distinguished himself in Silesia. After the rupture of the convention of Closterseven, he was employed by George II. in the command of the English and Hanoverian forces destined to act against the French. He now drove the enemy beyond the Rhine, and won, by a daring manœuvre, the

battle of Crevelt. Shortly after followed the famous victory of Minden, in which Lord George Sackville, who commanded the British and Hanoverian cavalry, was accused of standing aloof in the action. In 1762 Ferdinand drove the French out of the territory of Hesse: the peace of the following year terminated his career as a general, and he retired to Brunswick, where his death took place July 3rd, 1792.

BRUNSWICK LUNENBURG (Charles William Ferdinand, duke of), nephew of the preceding, and born at Brunswick in 1735, studied the art of war under his uncle and Frederic the Great of Prussia. When only twenty-two, he distinguished himself at the battle of Hastenbeck, and afterwards served with reputation. The king of Prussia employed him in a military capacity in 1770 and 1771; and in 1778 the war concerning the succession of Bavaria gave him an opportunity of establishing his fame. He succeeded to the duchy on the death of his father in 1780. In 1787 he conducted his memorable campaign in Holland, quieted its disturbances, and established for a time the preponderance of Prussia. The revolution now rising in France furnished him with fresh employment: in 1792 he was appointed to the command of the allied forces destined to act against France, with a view to liberate Louis XVI. Nothing could be more unfortunate than the result of this expedition; the duke resigned his command in the beginning of 1794. He once more took up arms against France in 1806, and received a wound, while in command of the Prussians at the battle of Auerstadt, of which he died at Altona, November 10th, 1806. In 1764 this prince married the princess Augusta of England, by whom he had three sons and four daughters. His eldest son and successor fell in the midst of his brave Brunswickers early in the battle, fought in 1815, near Waterloo. For a sketch of the life of his not less brave but unhappy daughter, Caroline, see CAROLINE.

BRUNSWICK-OELS (Frederick Augustus, duke of), younger brother of the preceding, was born in 1741 at Brunswick. Destined, from his station, to a military life, he had yet a strong predilection for the belles lettres; and, while acting as a general officer in the service of Prussia, distinguished himself by his literary acquirements. His productions, printed and circulated among his friends, but never published, were Critical Remarks on the Character and Actions of Alexander the Great; a Treatise on Great Men; The Thoughts of a Cosmopolite on Air Balloons; Military Instructions; A Discourse on Taking the Oath; Considerations on the Grandeur, &c. of Ancient Rome; An amusing Historical, Political, and Literary Journal; all in 8vo.: and a History of the Military Life of Prince Frederick Augustus of Brunswick Lunenburg, 4to. His highness was an honorary member of the Berlin Academy of Sciences. In 1792 he succeeded to the principality of Brunswick Oels, and died in 1805 at Weimar.

William Adolphus, another brother, belonged to the Academy at Berlin, and published a Translation of Sallust, a Discourse on War, and a Poem on the Conquest of Mexico, in French.

He served in the armies of the king of Prussia, and died of a fever in 1771, when about to join the Russian army.

BRUNT'. Swed. *branad*, Belg. *brand*, from Goth. *brenna*. To burn; ardor; vehemence; shock; violence; blow; stroke.

Erona chose rather to bide the *brunt* of war, than venture him. *Sidney.*

A wicked ambush, which lay hidden long
In the close covert of her guileful cyen,
Thence breaking forth, did thick about me throng,
Too feeble I to' abide the *brunt* so strong. *Spenser.*

The friendly rug preserved the ground,
And headlong knight, from bruise or wound,
Like feather-bed betwixt a wall,
Or heavy *brunt* of cannon-ball. *Hudibras.*

God, who caused a fountain, at thy prayer,
From the dry ground to spring, thy thirst to' allay
After the *brunt* of battle. *Milton.*

BRUNTON (Mary), an authoress of some repute, was the daughter of Colonel Thomas Balfour, and born in the island of Barra, Orkney, in 1778. She married, in her twentieth year, Dr. Alexander Brunton, minister of Bolton, near Haddington, and afterwards of Edinburgh. She wrote *Discipline, and Self-Control*, two very successful novels of the religious class, and died in 1818, leaving *Emmeline*, a tale, and other pieces, which have been published by Dr. B. with a sketch of her life.

BRUNY'S ISLE, an island on the south-east coast of Van Diemen's land, of an irregular figure, and about thirty miles in length. On the east it is penetrated by Adventure Bay, and by Isthmus Bay on the west; the tides nearly meet on each side of the narrow intervening lands. From the mainland this island is separated by D'Entrecasteaux's channel, and has a beautiful sandy beach, of which the interior is covered with lofty trees, many of which seem peculiar to the island. Enormous rays are found here, weighing 300 or 400 pounds. Mosquitoes are numerous, and a species of large black ant, which inflicts a very painful bite. Eagles, hawks, parrots, and several kinds of crows, frequent the shore, where numbers of aquatic birds are taken. Kangaroos are also found here, and a singular species of the duck-billed ant eater. It is seventeen inches long, two inches high when walking, and covered by spines, just projecting above the skin. It is a sort of connecting link between birds and quadrupeds. The few inhabitants here are of similar tribes to those of Van Diemen's land, dark, and tattooed with fanciful elevated punctures. Both sexes go naked, and are very barbarous and treacherous. Long. 147° 29' E., lat. 43° 21' S.

BRUSCHIUS (Gasper), a Latin historian and poet, born at Egra, in Bohemia, in 1518. He was devoted to literature from his childhood, and especially to poetry, in which he gained so much reputation, that he attained to the poetical crown, to the dignity of poet laureat, and of count palatine. He wrote with prodigious facility; and his verses are easy, and natural. He published Latin poems on various subjects; the History of the Bishops and Bishoprics of Germany; of German Monasteries; and many other works, of

which a catalogue is given in Gesner's *Bibliothèque*. He was very poor, subsisting almost entirely by the benefactions of his poetical patrons, and by presents from the abbots whose monasteries he described. The liberality of some abbots at Basil enabled him to buy a new suit of clothes; but when he found that appearing well dressed in the streets procured him respect from the vulgar, he tore his new finery to pieces, 'as slaves that had usurped their master's honors.' He was murdered in the forest of Schlingenbach between Rottemberg and Winsheim, by some gentlemen (it was supposed) against whom he was about to write something.

BRUSH', *v. & n.* } Swed. *borst*, Dan. *bæerst*,
BRUSH'ER, } Fr. *brosse*. This in the
BRUSH'Y. } sense of an instrument made with bristles of hair: but Goth. *brask*, *brad-ska*, Swed. *brad-ska*, Scot. *brash*, Bel. *brusk*, Fr. *brusque*, Ital. *brusco*. In this it signifies a sudden effort, a strenuous act, an assault. To brush, is with a brush either to clean, rub, or paint anything; to strike with quickness, to move with rapidity, or to fly over, to skim lightly. The adjective is used in the sense of rough or shaggy. A fox's tail is on this account called a brush.

The wrathful beast about him turned light,
And him so rudely passing by, did brush
With his long tail, that horse and man to ground did rush. *Færie Queene.*

If he be not in love with some woman, there is no believing old signs: he *brushes* his hat o' morning; what should that bode? *Shakspeare.*

Let grow thy sinews till their knots be strong,
And tempt not yet the *brushes* of the war. *Id.*

Sir Henry Wotton used to say, that critics were like *brushers* of noblemen's cloathes. *Bacon.*

Another bolder stands at push
With their old holy-water *brush*. *Marvell.*

And from the boughs *brush* off the evil dew,
And heal the harms of thwarting thunder blue. *Milton.*

Has Somnus *brush'd* thy eyelids with his rod?
Dryden.

His son Cupavo *brushed* the briny flood,
Upon his stern a brawny centaur stood. *Id.*

Nor wept his fate, nor cast a pitying eye,
Nor took him down, but *brushed* regardless by. *Id.*

High o'er the billows flew the massy load,
And near the ship came thundering on the flood,
It almost *brushed* the helm. *Pope.*

You have commissioned me to paint your shop, and
I have done my best to *brush* you up like your neighbours. *Id.*

The French had gathered all their force,
And William met them in their way;
Yet off they *brushed*, both foot and horse. *Prior.*

With a small *brush* you must smear the glue well
upon the joint of each piece. *Mozon.*

Whence comes all this rage of wit? this arming all
the pencils and *brushes* of the town against me?
Stillingfleet.

As on a time the fox held forth,
On conscience, honesty, and worth,
Sudden he stopped; he cocked his ear;
Low dropt his *brushy* tail with fear. *Gay's Fables.*

Alike the busy and the gay
But flutter through life's little day,
In fortune's varying colours drest,
Brushed by the hand of rough mischance. *Gray.*

BRUSH, in electricity, denotes the luminous appearance of the electric matter issuing in a parcel of diverging rays from a point. Beccaria ascribes this appearance to the force with which the electric fluid, going out of a point, divides the contiguous air, and passes through it to that which is more remote.

BRUSH MAKING. This is done by folding the hair or bristle in two; and bringing it by means of a packthread, which is engaged in the fold, through the holes with which the wood is pierced all over, being afterwards fastened therein with glue. When the holes are thus filled, the ends of the hair are cut to make the surface even. The Chinese painter's brush consists of the stalk of a plant; whose fibres being fretted at both ends, and tied again, serve for a brush.

BRUSH, SHEARMEN'S, is made of wild boar's bristles; and serves to lay the wool or nap of cloth, after shearing it for the last time.

BRUSH, WIRE, is made of brass or iron wires instead of hair. These are used by silver-smiths and gilders, for scrubbing silver, copper, or brass, previous to gilding them.

BRUSH OF A FOX, among sportsmen, signifies his drag or tail.

BRUSHWOOD. Teut. *brusch*, Fr. *brusc*, *brosse*, *brossailles*, Ital. *brusca*. Young trees, or branches that are stunted by cattle. See *Browse* and *Risewood*.

It smokes, and then with trembling breath she blows,
Till in a cheerful blaze the flames arose.

With *brushwood*, and with chips, she strengthens these,
And adds at last the boughs of rotten trees. *Dryden*.

BRUSSELS, the capital of the southern provinces, and second town of the kingdom of the Netherlands, is a handsome city of South Brabant, situated partly on a gentle eminence, and partly on a plain watered by the Senne. It is stated to be seven English miles in circumference, and was formerly surrounded by a wall, ditch, and other fortifications; but these were demolished by Joseph II. and the ramparts are laid out in public walks. No town in Europe has finer walks. That part of the city on the hill has a very imposing appearance. The park is an immense square, laid out in regular walks, shaded with trees, and surrounded by the palaces, public offices, and houses of the great. In one of these walks, there is a fountain into which the czar Peter, when on a visit to this city, fell one evening after dinner, while strolling through the park; an event recorded on a marble tablet. In the lower town are many narrow streets of the character of all bustling towns; but the great market-place here is beautiful; and the public buildings are good specimens of the florid Gothic. The Hotel de Ville is a magnificent structure of this kind, with a spire of curious architecture, 364 feet high, and surmounted by a statue of St. Michael with the dragon, in gilt copper. The internal decorations of this edifice correspond with its external appearance. Some of the apartments are adorned with beautiful specimens of tapestry, representing the resignation of Charles V. Many of the churches and palaces

of the nobility are also elegant structures, mostly decorated with the finest paintings of the Flemish school. Of twenty public fountains which supply the city with water, some are elegantly executed and ornamented. The church of the Capuchins is one of the finest they possessed in Europe. Brussels has also a public library, containing 100,000 volumes; an academy of sciences, instituted in 1772, which holds its meetings in the library; a botanic garden, with more than 4000 exotics; a cabinet of curiosities; collection of paintings; &c. Besides, being the permanent abode of the hereditary prince, and the usual residence of the court of the Netherlands, the states-general of the kingdom meet here and at the Hague alternately. The magistracy is composed of a superior officer, a burgomaster, seven echevins, two treasurers, and a pensionary, besides nine councillors and three receivers.

Brussels has long been celebrated for its lace and carpets, of a superior manufacture. The former alone employs about 10,000 people. Silks and earthenware are also wrought, woollen and cotton stuffs of various kinds, and potash. Since the peace of 1814, its population has increased from 60,000 to 80,000, which includes a great number of English families. Brussels has also a respectable foreign trade, by means of the Scheldt, with which it is connected by a canal.

The environs of Brussels are well cultivated, and, striking along the whole southern line, stretches the large forest of Soignies. The city was the head-quarters of the British troops on the eve of the memorable battle of Waterloo; and, both before and after that glorious victory, was a scene of the deepest interest to every nation and country of Europe. The numerous tours, sentimental, descriptive, or of a mixed character, which the vanity or industry of its visitants has given the public, must have rendered the city and its scenery familiar to most of our readers.

Brussels was founded by St. Gery, bishop of Cambrai, about the beginning of the seventh century, who commenced with a small chapel, built on an island formed by the Senne. The labors of the bishop, it is said, and the pleasantness of the situation, soon surrounded him with a considerable village; and in the year 900 both a market and a castle are found here. It received its walls and towers when, about the middle of the eleventh century, it became the residence of the dukes of Brabant. Subsequently the Austrian governors of the Netherlands resided here. In 1555 Charles V. here resigned his dominions to his son Philip; the chair of state which he used is still preserved. In 1695 Marshal Villeroy bombarded it for sixteen hours, when fourteen churches and 4000 houses became a prey to the flames. After the battle of Ramillies, the keys were resigned to the duke of Marlborough. The Elector of Bavaria made an unsuccessful attack upon this city in 1708; but it was taken by the French in 1746, and restored at the peace of Aix-la-Chapelle. It was first entered by the French revolutionary troops in 1792, about ten days after the battle of Jemappe; was afterwards evacuated, but again taken on the 10th of July, 1794, and kept till the general

peace. During these years it was the chief town in the department of the Dyle, the seat of a prefect and receiver-general, a court of criminal and special justice, a chamber and tribunal of commerce, and a court of appeal for five departments. Lat. 50° 51' N., long. 4° 22' E.

BRUTA, in zoology, the second order of animals of the class mammalia, comprehending those animals which have no fore teeth in either jaw; feet with strong hoof-like nails. The genera included in this order are,—the rhinoceros, having a horn in the middle of its forehead; bradypus, sloth; myrmecophaga, ant-eater; platypus; manis; sypus, armadillo; sukotyro, double-horned rhinoceros; elephas, elephant; trichechus, morse.

BRUSTLE. Sax. *brastlin*, Teut. *brasteln*, from Goth. *brasa*, Swed. *brasta*, to burn. To crackle like the burning of sticks; to raise the bristles like a boar or hedgehog. See BRISTLE. To make a noise like the rubbing of silk. See RUSTLE.

BRUTE, n. & adj.	} Lat. <i>brutus</i> , Fr. <i>brute</i> , Ital. <i>bruto</i> . Brute is an irrational animal; a creature without reason; a savage. The adjective is applied to that which has the distinguishing characteristic qualities of a brute. Stupid, savage, cruel, inhuman. Rough, gross, ferocious, uncivilised, ignorant.
BRU'TAL,	
BRUTAL'ITY,	
BRU'TALIZE,	
BRU'TALLY,	
BRUTE'NESS,	
BRU'TIFY,	
BRU'TISH,	
BRU'TISHLY,	
BRU'TISHNESS.	

In such a salvage wight, of *brutish* kynd,
Amongst wild beastes in desert forrests bynd,
It is most strange and wonderful to fynd,
So mild humanity and perfect gentle mynd.

Spenser.

Thou dotard vyle,
That with thy *bruteness* shend'st thy comely age. *Id.*

They were not so *brutish*, that they could be ignorant to call upon the name of God. *Hocker.*

There is no opposing *brutal* force to the stratagems of human reason. *L'Estrange.*

What may this mean? Language of man pronounced
By tongue of *brute*, and human sense expressed!

Milton.

Osiris, Isis, Orus, and their train,
With monstrous shapes and sorceries abused
Fanatic Egypt, and her priests, to seek
Their wandering gods disguised in *brutish* forms.

Id.

Then to subdue, and quell through all the earth,
Brute violence, and proud tyrannick power. *Id.*

To these three present impulses, of sense, memory, and instinct, most, if not all, the sagacities of *brutes* may be reduced. *Hale.*

For a man to found a confident practice upon a disputable principle, is *brutishly* to outrun his reason.

South.

After he has slept himself into some use of himself, by much ado he staggers to his table again, and there acts over the same *brutish* scene. *Id.*

The *brutal* business of the war
Is managed by thy dreadful servants' care.

Dryden.

O thou fallacious woman! am I then *brutified*?—
Ay; I feel it here; I sprout, I bud, I am ripe horn
mad.

Congreve.

All other courage, besides that, is not true valour, but *brutishness*. *Spratt.*

Courage, in an ill-bred man, has the air, and escapes not the opinion, of *brutality*. *Loeke.*

Brutes may be considered as either aerial, terrestrial, aquatick, or amphibious. I call those aerial which have wings, wherewith they can support themselves in the air; terrestrial are those whose only place of rest is upon the earth; aquatick are those, whose constant abode is upon the water. *Id.*

Upon being carried to the Cape of Good Hope, he mixed, in a kind of transport, with his countrymen, *brutalized* with them in their habit and manners, and would never again return to his foreign acquaintance.

Addison.

Mrs. Bull aimed a knife at John, though John threw a bottle at her head, very *brutally* indeed.

Arbuthnot.

O how infallible the thoughtless *brute*!

'Twere well his holiness were half as sure.

Savage.

Why starved, on earth, our angel appetites,
While *brutal* are indulged their fulsome fill? *Young.*

Patience! Hence—that word was made

For *brutes* of burthen, not for birds of prey;

Preach it to mortals of a dust like thine—

I am not of thine order.

Byron's *Manfred*.

BRUTIA, in the medical writings of the ancients, the fattest and most resinous kind of pitch, such as was properest for making the oil of pitch, called *oleum picinum*.

BRUTTII, in ancient geography, one of the two peninsulas of Italy, the ancient Calabria being the other; stretching south towards Sicily; bounded by the sea on every side except by the isthmus, between the river Laus and the Thurii, where it is terminated by Lucania; inhabited by the Bruttii, for whose country the ancient Romans had no peculiar name, calling both the people and the country indiscriminately Bruttii. This and a part of Lucania formed the ancient Italia. It was called *Bruttia*, which in Greek signifies pitch, from the great quantity of it produced there. It is divided into two coasts by the Apennine; that on the Tuscan, and that on the Ionian sea; and is now called Calabria Ultra. It now differs from the ancient Calabria or Messapia, on the east, on the Adriatic sea, which formed the other peninsula or heel of the leg, now called Calabria Citra, the Bruttii forming the foot.

BRUTUS (Lucius Junius), the avenger of the rape of Lucretia, and founder of the Roman republic, flourished about A. A. C. 509. See ROME, HISTORY OF.

BRUTUS (Marcus), the passionate lover of his country, and chief conspirator against Cæsar, slew himself on losing the battle of Philippi, A. A. C. 43. See ROME, HISTORY OF.

BRUTUS (Decimus Junius), one of the conspirators against Cæsar. He was slain by Marc Antony.

BRUTUS (John Michael), a man of learning in the sixteenth century. He was born in Venice; and, having studied at Padua, spent great part of his life in travelling, and became historiographer to the emperor. He wrote, 1. A History of Hungary. 2. A History of Florence. 3. Notes on Horace, Cæsar, Cicero, &c. and other works.

BRUTUS, or BRUTE, according to the ancient fabulous history of this island, by Geoffrey of

Monmouth, was the first king of Britain. He is said to have been the son of Sylvius, and grandson of Ascanius, the son of Æneas, and born in Italy. Having accidentally killed his father, he fled into Greece, where he took king Pandrasus prisoner, who kept the Trojans in slavery, whom he released on condition of providing ships, &c. for the Trojans to emigrate with them. Being advised by the oracle to sail west beyond Gaul, he, after some adventures, landed at Totness in Devonshire. Albion was then inhabited by a remnant of giants, whom Brutus destroyed; and called the island after his own name Britain. He built a city called Troja Nova, or Troynovant, now London; and, having reigned twenty-four years, at his death divided the island among his three sons: Lochrine had the middle, called Logegria, now England; Camber had Cambria, now Wales; and Albanact, Albania, now Scotland.

BRUTUS, in entomology, a species of papilio inhabiting Africa.

BRUYERE (John de la), a French writer of repute, was born in 1640, at a village of the Isle of France. When treasurer at Caen, by purchase, he was noticed by Bossuet, and placed about the person of the duke of Burgundy, whom he instructed in history, for which he was remunerated with a pension of one thousand crowns per annum. The rest of his life he passed as a courtier and a man of letters, admired equally for his urbanity and his philosophical mind. In 1693 he was elected one of the members of the French Academy, and died in 1696, by an apoplectic fit. Few works have been more popular than his *Characters of Theophrastus*, translated from the Greek, with the *Manners of the present Age*. He left behind him *Dialogues on Quietism*, which were edited and published by Dupin in 1699. The best editions of his *Characters* are those of Amsterdam and Paris, 1741, two volumes, 12mo., and that of 1765, one volume, 4to.

BRYAN (Michael), an author and connoisseur in the fine arts, was at one time a picture-dealer, in which profession he failed. But he was of most respectable character and connexions, having married a sister of the earl of Shrewsbury. He afterwards engaged in the composition of a *Biographical and Critical Dictionary of Painters and Engravers*, which was commenced in 1813, and published in 1816, in two volumes, quarto. Many of the sketches are original, and do him much credit. He died March 21st, 1821, at the age of sixty-four.

BRYANT (Sir Francis), a soldier, statesman, and poet, was born of a genteel family, and educated at Oxford. In 1522, the fourteenth of Henry VIII., he attended the earl of Surrey to the coast of Brittany; and commanded the troops in the attack of Morlaix, which he took and burnt. For this service he was knighted on the spot by the earl. In 1529 he was sent ambassador to France; and, in 1530 to Rome, on the subject of the king's divorce. He was gentleman of the privy chamber to Henry VIII., and to Edward VI., in the beginning of whose reign he marched with the protector against the Scots; and, after the battle of Musselburgh, was made banneret. In 1548 he was appointed chief

governor of Ireland, where he married the countess of Ormond. He died soon after, and was buried at Waterford. His works are, 1. *Songs and Sonnets*; some of which were printed with those of the earl of Surrey and Sir Thomas Wyatt. London, 1565. 2. Letters written from Rome concerning the king's divorce; MS. 3. *A Dispraise of the Life of a Courtier*, &c. London, 1548, 8vo. from the French of Alaygri, who translated it from the Castilian, in which it was originally written by Guevara.

BRYANT (Jacob), a writer distinguished for great extent of learning and depth of research, was born in 1715 at Plymouth, where his father held an appointment in the customs. Entered at Eton, he very soon distinguished himself by the rapidity of his classical attainments; and at King's College, Cambridge, he continued to prosecute his studies with remarkable assiduity and success. His reputation having reached the ears of the duke of Marlborough, he was first appointed private secretary to that celebrated nobleman, and afterwards accompanied his son to Eton, in the capacity of private tutor. The first work that Bryant gave to the world, bore for its title, *Observations and Enquiries relating to various parts of Ancient History*, containing *Dissertations on the wind Euroclydon*, and the *Island Melite*; together with an account of Egypt in its most early state, and of the *Shepherd Kings*, 1767. The *New System, or Analysis of Ancient Mythology*, came out in 1774; a work of uncommon industry, and evincing the most profound acquaintance with the language and customs of antiquity. His *Dissertation on the Apamean Medal* was severely attacked in the *Gentleman's Magazine*; which attack he successfully repelled in a separate publication, inserted, we believe, in the last edition of his works. This medal is certainly a very remarkable relic of antiquity; and it deserves to be mentioned that professor Eckhel, the first medalist of his age, gave a decision on the controversy in favor of Mr. Bryant. Some time after, Bryant published a pamphlet, entitled *Vindiciæ Flavianæ*: the object of which was to remove certain difficulties attending the testimony which Josephus bears to Christ. This tract made little impression at first, and was in fact called in by its author, who contented himself with distributing copies among his particular friends; and it was not until Dr. Priestley had declared himself convinced by the reasoning which it contains, that Bryant ventured to send it forth again with his name. Bryant's attention seems to have been drawn about this period to the poems attributed to Rowley. From the communication of his friend Dr. Glynn, and his enquiries at Bristol, he received such information as convinced him, that these poems were not entirely of Chatterton's fabrication, and he accordingly took upon him the arduous task of proving their genuineness. In 1794 he produced a large volume, entitled *Observations upon the Plagues inflicted upon the Egyptians*, in which is shown the peculiarity of those judgments, and their correspondence with the rites and idolatry of that people; with a prefatory discourse concerning the Grecian colonies from Egypt. *M. le Chevalier's Description of the Plain of Troy*

having been published, Bryant, who several years before had written his sentiments on the Trojan war, now first set forth some observations on M. le Chevalier's treatise, and afterwards a dissertation on the Expedition of the Greeks, as it is given by Homer, with the intention of showing that no such expedition had ever taken place, and that no such city as Troy ever existed. In this notion he stood almost alone, though he was not without plausible arguments to support his opinion. Everything associated with the idea of Troy has been, for so many generations, consecrated in the minds of men by the powers of Homer's verse, and by an undefined veneration for the suffrages of antiquity, that it was held as a kind of sacrilege on the part of any scholar to call in question the events which accompanied the downfall of that celebrated city. In the following year Mr. Bryant submitted to the public a work of a different kind and character, under the title of *The Sentiments of Philo-Judæus concerning the ΛΟΓΟΣ*, or word. But learned and curious as this treatise unquestionably is, it appears to have excited less interest among general readers than perhaps any of his other productions. He closed his literary labors with a quarto volume of Dissertations on the Prophecy of Balaam; the standing still of the Sun in the time of Joshua; the Jaw-bone of the Ass with which Samson slew the Philistines; and the History of Jonah and the Whale; subjects in themselves exceedingly curious, and which he treated with great talents and ingenuity. Mr. Bryant was remarkably temperate in his habits, and his conversation was animated and sprightly when among particular friends. His liberality was not confined within narrow limits, and the spirit of religion diffused itself through all his works. He died at Cypenham near Windsor on the 14th of November, 1804, of a mortification in his leg, brought on by a hurt from the tilting of a chair, in reaching down a book from its shelf.

BRYDONE (Patrick), a recent traveller of some eminence, was born in Scotland in 1741, and was early in life engaged as travelling tutor to Mr. Beckford and some other gentlemen. On his return he published his celebrated *Travels in Sicily and Malta*, of which work a second edition in two volumes, octavo, was published in 1790. A flowing style, the vivacity of his remarks, and the general accuracy of his descriptions, rendered this production very popular, and procured him admission into the Royal Society. On the subject of the eruptions of Etna, he attacks, as he conceives, the Mosaic account of the creation, and appears to have been an unbeliever in mere ignorance of what Revelation contains. See the close of our article *ÆΤΝΑ*. Mr. Brydone received the appointment of comptroller of the stamp-office, which he held to his death in 1819. Besides his *Tour*, he was the author of several papers in the *Philosophical Transactions*.

BRYE (John Theodore de), an excellent engraver, a native of Liege, who resided chiefly at Frankfort. He acquired a neat, free style of engraving, excellently adapted to small subjects, with many figures, as processions, &c. His heads in general are spirited, and his back

grounds are touched with a masterly hand. He died in 1598. The two first parts of Boissard's collection of portraits were engraved by him, assisted by his sons, who afterwards continued it.

BRYENNIUS (Manuel), a Greek writer on music, is supposed to have flourished under the elder Palseologus, about the year 1320. He wrote three books on Harmonics; the first is a kind of commentary on Euclid; the second and third on Ptolemy. Meibomius had given the public expectations of a translation of this work, but not living to complete it, Dr. Wallis undertook it: and it now makes a part of the third volume of his works, published at Oxford, in 3 vols. folio, 1699.

BRYENNIUS (Nicephorus), a prince distinguished by his courage, probity, and learning, was born at Orestia in Macedonia, where his father by rebellion provoked the emperor to send his general Alexis Comnenus against him, who ordered his eyes to be put out; but, being charmed with his son Nicephorus, he married him to his own daughter, the celebrated Anna Comnena. When Alexis came to the throne, he gave Bryennius the title of Cæsar; but would not declare him his successor, though solicited by the empress Irene: and was therefore succeeded by his son John Comnenus, to whom Bryennius behaved with the utmost fidelity. Being sent, about A. D. 1137, to besiege Antioch, he fell sick, and returning, died at Constantinople. This prince wrote the *History of the Reigns of Isaac Comnenus and his three Successors*, which was published with a Latin version at Paris in 1661.

BRYGMOS, or **BRYGMUS**, in medicine, a grating noise made by the gnashing of the teeth.

BRYONIA, **BRYONY**, a genus of the syngenesia order, and monœcia class of plants; in the natural method ranking under the thirty-fourth order, cucurbitaceæ. The calyx of the male is five-toothed, with a quinquefid corolla, and three filaments. In the female the calyx is dentated, the corolla quinquefid, the style trifid, with a roundish many-seeded berry. There are nineteen species, the chief of which are, 1. *B. alba*, rough or white bryony with red flowers, a native of dry banks under hedges, in many parts of Britain. The roots of this plant have by impostors been brought into a human shape, and shown for mandrakes. The roots of this species are used in medicine. These are very large, sometimes as thick as a man's thigh; their smell, when fresh, is strong and disagreeable; the taste nauseously bitter, acrid, and biting; the juice is so sharp, as in a little time to excoriate the skin; in drying, they lose great part of their acrimony, and almost their whole scent. Bryony root is a strong irritating cathartic; and as such has sometimes been successfully exhibited in maniacal cases, in some kinds of dropsies, and in several chronic disorders, where a quick solution of viscid juices, and a sudden stimulus on the solids, were required. An extract prepared by water acts more mildly, and with greater safety than the root in substance: given from half a dram to a dram, it is said to prove a gentle purgative, and likewise to operate powerfully by urine. Bryony root, applied externally, is said to be a

powerful discutient. 2. *B. bonariensis*, bryony with hairy palmated leaves, divided into five parts, and obtuse segments. It is a native of warm countries; but merits cultivation on account of the pretty appearance it makes when full of fruit. 3. *B. racemosa*, bryony with a red olive-shaped fruit. It is a native of warm climates, and perennial; but the branches decay every winter. They flower in July, and in warm summers will perfect their seeds in Britain.

BRYONIA, in conchology, a species of strombus, color fuscous, variegated with white and blue in clouds. This shell is of a conic form, with a mucronate, eight-dentated lip, and knotty spire. This shell is extremely rare, and its native place is unknown.

BRYONIOIDES, a name given by some botanists to the single-seeded cucumber. See *Sicyos*.

BRYTIA, among ancient naturalists, the must of grapes, which remains after expressing the juice.

BRYUM, in botany, a genus of the class cryptogamia, order musci. The anthera is operculated or covered with a lid, the calyptra polished; and there is a filament arising from the terminal tubercle. There are forty-seven species, most of them natives of Britain.

BRZESC, or **BRZEST**, the chief town of a circle in the province of Grodno, Russia, formerly the capital of a palatinate in Lithuania, stands on the river Bug, about 100 miles east of Warsaw. It is said to contain the largest Jewish synagogue in Europe, and a seminary, to which young Rabbies from all parts of Europe resort. Near this town an engagement took place between the Russians and Poles in 1794, which lasted eight hours. Population about 4000. Lat. 52° 5' N., long. 23° 30' E.

BUA, an island of the gulph of Venice, on the coast of Dalmatia, near Trau; called also the Partridge Island, because frequented by those birds. It is called Bubus by Pliny. During the decline of the empire it was called Boas; and several illustrious men who fell under disgrace at court, were banished to it, particularly Florentius, master of the offices under Julian, Immentius de Valenti, and the heretic Jovinian. The emperors of Constantinople either were not acquainted with it, or were willing to treat the banished with great clemency. The climate is exceedingly mild; the air good; the oil, grapes, and fruit excellent; the sea around it abounds in fish, and the port is large and secure. It is ten miles in length, and twenty-five in circuit; but rather high and mountainous.

BUAT-NANCAY (Louis Gabriel, Count du), was born in Normandy, of a respectable family, in March, 1732. At an early age he entered into the Order of Malta; and became acquainted with the Chevalier Folard, author of the Commentaries on Polybius, who received him into his house, and watched over his education. Buat became successively Minister for France at Ratisbon and Dresden; retired from public life in the year 1776, and died at Nancay, in Berry, on the 18th of September, 1787. He was a man of considerable talent and learning, writing with great facility; but his style is unequal. His

works are: 1. *Tableau du Gouvernement actuel de l'Empire d'Allemagne*, translated from the German of Schmauss, with notes historical and critical. Paris, 1755, 12mo. 2. *Les Origines, ou l'Ancien Gouvernement de la France, de l'Italie, et de l'Allemagne*, published at the Hague, 1757, 4 vols. 12mo. 3. *Histoire Ancienne des Peuples de l'Europe*, Paris, 1772, 12 vols. 12mo. This is the largest, and perhaps the best work of Buat. 4. *Les Elemens de la Politique, ou Recherches sur la vrais Principes de l'Economie Sociale*, 1773, 6 vols. 8vo. 5. *Les Maximes du Gouvernement Monarchique, pour servir de suite aux Elemens*, 4 vols. 8vo. There is also ascribed to Buat a work entitled *Remarques d'un Français, ou Examen impartial du livre de M. Necker sur les Finances*, Geneva, 1785, 8vo. In his youth he composed a tragedy, entitled *Charlemagne, ou le Triumphe des Loix*, published at Vienna, 1764, 8vo. He also contributed several articles to the scientific and other journals, on points of literature, history, and political economy; in particular, some excellent observations on the character of Xenophon, &c. in the fourth volume of the *Variétés Littéraires*.

BUB', *v. & n.* *Dut. bobbelen*. Strong, foaming, bubbling liquor. Johnson says strong malt liquor.

Or if it be his fate to meet

With folks who have more wealth than wit,

He loves cheap port, and double *bub*,

And settles in the humdrum club. *Prior.*

BUBALUS, in zoology, the trivial name of the buffalo. See *Bos*.

BUBASTIS, a name of Isis, or the moon. The Egyptians bestowed different names on the sun and moon, to characterise their effects and relations with respect to the earth. Theology, having personified Bubastis, formed a divinity, of whom a cat was the symbol. The priests fed it with sacred food; and when it died they embalmed its body, and carried it in pomp to the tomb prepared for it. The ancients have explained this worship variously. The Greeks pretended that, when Typhon declared war against the gods, Apollo transformed himself into a vulture, Mercury into an ibis, and Bubastis into a cat, and that the veneration of the people for cats took rise from that fable; but they ascribe their own ideas to the Egyptians, who thought very differently. The Greeks, who worshipped the moon by the name of Diana, bestowed it also on this Egyptian divinity. The Egyptians attributed to her the virtue of assisting pregnant women, as the Greeks and Latins did to Diana. A perfect resemblance, however, does not exist between the two deities. The Greeks constituted Diana goddess of the chase, an attribute the Egyptians did not acknowledge in Bubastis. Diana was the daughter of Jupiter and Latona, but Bubastis of Osiris and Isis. A question naturally arises here: how could Bubastis be called the daughter of Isis since she also was a symbol of the moon? The Egyptian theology easily explains this. Isis was the general appellation of the moon, Bubastis a particular attribute. The sun, in conjunction with the star of the night, formed the celestial marriage of Osiris and

Isis; the crescent, which appears three days after, was allegorically called their daughter. Accordingly, in the city of Ithiya, where Bubastis was adored under that title, the third day of the lunar month was consecrated by a particular worship; because, three days after the conjunction, the moon, disengaged from the rays of the sun, appears as a crescent, and is visible. The Egyptians, therefore, celebrated a solemnity in honor of Bubastis, which in their tongue signified new moon.

BUBASTIS, in ancient geography, a city of Egypt built in honor of the goddess, and where, according to Herodotus, the people annually assembled from all parts of Egypt, to celebrate her festival.

BUBBLE, *v. & n.* Lat. *bullabula*, Span. *burbiy*, Swed. *bulbu*, Belg. *bobble*, Sans. *bool*.
BUBBLING, }
BUB'BLY, } of air in water. Bubble
BUB'BLE-GLASS, } is applied to that which will burst as easily as a
BUB'BLE-BLOWING. } bubble; to anything which wants solidity and
firmness; to a puff, and thus to a cheat, a delusion, a fraud, and hence to bubble is to cheat, to cozen, to delude, to defraud.

For youth is a bubble blowne up with breath,
Whose witte is weakness, whose wage is death
Whose way is wilderness, whose ynné penaunce
And steepe gallaunt age the host of Greevaunce.

Spenser.

Alas! a crimson river of warm blood,
Like to a bubbling fountain stirred with wind,
Doth rise and fall. Shakspeare.

Then a soldier,
Seeking the bubble reputation,
Even in the cannon's mouth. Id.

War, he sung, is toil and trouble,
Honour but an empty bubble,
Fighting still, and still destroying. Dryden.

Still bubble on, and pour forth blood and tears. Id.
He tells me, with great passion, that she has
bubbled him out of his youth; and has drilled him on
to five and fifty. Addison.

He has been my bubble these twenty years, and, to
my certain knowledge, understands no more of his
own affairs, than a child in swaddling clothes.

Arbutnot.

Cease, dearest mother, cease to chide;
Gany's a cheat, and I'm a bubble:
Yet why this great excess of trouble? Prior.

The nation then too late will find,
Directors' promises but wind,
South-sea at best a mighty bubble. Swift.

Not bubbling fountains to the thirsty swain,
Not showers to larks, or sunshine to the bee,
Are half so charming as thy sight to me. Pope.

What words can suffice to express, how infinitely I
esteem you, above all the great ones in this part of
the world; above all the Jews, jobbers, and bubblesters!

Digby to Pope.

Who sees with equal eye, as God of all,
A hero perish, or a sparrow fall;
Atoms or systems into ruin hurled;
And now a bubble burst, and now a world.

Pope's Essay on Man.

Hew fair, how young, how soft, so'er he seem,
Fall from the fount of Joy's delicious springs,
Some batter o'er the flowers its bubbling venom flings
Byron.

BUBBLE, in commerce, a cant term given to a project for raising money on imaginary grounds. For examples, we may refer to France and England in 1719, 1720, and 1721, and to the latter country in 1825.

BUBBLE, in natural philosophy, a small drop or vesicle of any fluid filled with air, and formed either on its surface by an addition of more of the fluid, as in raining, &c.; or in its substance by an intestine motion of its component particles. Bubbles are dilatible or compressible, i. e. they take up more or less room as the included air is more or less heated, or more or less pressed from without; and are round because the included air acts equally from within all around.

BUBIL, in ornithology, a species of *turdus*: color brown, with a black longitudinal band behind the eye.

BUBBY. Ital. *poppa*, *boppa*. See PAP. A woman's breast.

Feh! say they, to see a handsome, brisk, genteel young fellow, so much governed by a doating old woman, why don't you go and suck the bubble?

Arbutnot.

BUBO, *n. s.* Lat. from *βασων*, the groin. That part of the groin from the bending of the thigh to the scrotum; and therefore all tumors in that part are called buboes.

I suppurated it after the manner of a *bubo*, opened it, and endeavoured detersion. Wiseman.

BUBO, in medicine, a tumor which rises with inflammation, more particularly in the lymphatic glands of the groin and axilla. This disease may arise either from the irritation of local disorder, from the absorption of venereal poison, or from constitutional causes, as is the case in the plague, and in scrophulous swellings of the inguinal and axillary glands.

BUBON, Macedonian parsley: a genus of the digynia order, belonging to the pentandria class of plants; and in the natural method ranking under the forty-sixth order, umbellatæ. The fruit is ovate, striated, and villous. There are five species, which are propagated by seeds, and require the common culture of other exotic vegetables.

1. *B. galbanum*, or African ferula, rises with an upright stalk to the height of eight or ten feet, which at bottom is woody, having a purplish bark, covered with a whitish powder that comes off when handled. The top of the stalk is terminated by an umbel of yellow flowers; which are succeeded by oblong channelled seeds, having a thin membrane or wing on their border. When any part of the plant is broken, there issues out a little thin milk of a cream color, from which the galbanum of the *Materia Medica* is made. See GALBANUM.

2. *B. gummiferum*, with a mock chervil leaf, rises with a ligneous stalk about the same height; but the small leaves or lobes are narrow and indented like those of bastard hemlock. The galbanum of the shops is supposed to be procured from these two species.

3. *B. Macedonicum*, sends out many leaves from the root; the lowest grow almost horizontally, spreading near the surface of the ground. In the centre of the plant arises the flower-stem, which is little more than a foot high, dividing into

many branches, each terminated by an umbel of white flowers, which are succeeded by oblong hairy seeds. The seeds of this plant enter into the celebrated compounds mithridate and theraca.

4. *B. rigidum*, hard or rigid ferula, is a native of Sicily. It is a low perennial plant, with short, stiff, and very narrow leaves. The foot stalk rises a foot in height, and is crowned with an umbel of small white flowers, to which succeed small, oblong, channelled seeds.

5. *B. levigatum*, a native of the Cape. Mr. Masson introduced this species into England in 1774.

BUBONA, in ancient mythology, the tutelary goddess of the larger cattle.

BUBONIUM, a name given by some botanists to the aster atticus, or golden star-wort, because it was supposed to be efficacious in maladies of the groin.

BUBONIUS LAPIS, a figured stone, in shape resembling an owl's head, of a flinty substance, black within, and cineritious without; thus denominated by Dr. Plott.

BUBONOCELE, *n. s.* Lat. from *βυβων* the groin, and *κηλη*, a rupture. A particular kind of rupture, when the intestines break down into the groin. See HERNIA INGUINALIS.

When the intestine, or omentum, falls through the rings of the abdominal muscles into the groin, it is called hernia inguinalis, or if into the scrotum, scrotalis: these two, though the first only is properly so called, are known by the name of *bubonocoele*. Sharp.

BUBROMA, in botany, a genus of the dodecandria order, and polyadelphia class of plants: CAL. perianth three-leaved; leaves ovate, concave, acute, reflected, deciduous: COR. petals five, concave, inserted into the nectary at the base: STAM. filaments five, filiform, upright, bent outwards at the tip; antheræ three on each filament; the cells margined: PIST. germ superior, roundish, hispid; style filiform; stigma simple: PERICARP. capsule, subglobular, woody, muricated all round with clubshaped tubercles, five-celled; cells lined with a thin membrane: SEEDS numerous, angular, almost reniform. *B. guazuma*, bastard cedar, grows from forty to fifty feet in height; trunk nearly the size of a man's body, covered with a dark-brown, furrowed, bark; branches horizontal; leaves alternate; racemes corymbose; flowers small. A native of the East and West Indies. A decoction of the inner bark is very glutinous, and is said to be excellent in the elephantiasis, a disorder common among the negroes.

BUBUKLE, *n. s.* A red pimple.

His face is all *bubukles*, and whelks, and knobs, and flames of fire. *Shakspeare*.

BUBULCA, in ichthyology, a small freshwater fish, called by some *bouviera* and *petense*. It is small, flat, and very short, approaching to a round rather than a long shape, and of a fine silvery whiteness, seldom above two inches in length.

BUBULCUS, *BUBULUS*, names of the constellation Bootes.

BUC (George), a learned English antiquary,

who flourished in the beginning of the seventeenth century. In the reign of king James I. he was made one of the gentlemen of the privy chamber, knighted, and constituted master of the revels. He wrote, 1. The History of the Reign of Richard III. in which he takes great pains to wipe off the bloody stains that have blotted his character, and represents the person and actions of that prince in a much less odious light, than other historians have done: 2. A Treatise of the Art of Revels; and 3. A work entitled the Third Universitie of England.

BUCARDIA, or BUCARDITES, in natural history, a name given by many authors to a stone, in some degree resembling the figure of an ox's heart. It is usually of the substance of the coarser stones, and is no other than a quantity of the matter of such stone, received while moist into the cavity of a large cockle, and thence, assuming the figure of the inside of that shell, the depression of the head of the cockle, where the cardo or hinge of this shell is, makes a long and large dent in the formed mass, which gives it a heart-like shape. Plott mentions a bucardites, which he found at Stretford in Staffordshire, which weighed twenty pounds, though broken half away, curiously reticulated, with a white-spar colored stone.

BUCARDIUM, in natural history, a name given by authors to a kind of heart shell, resembling an ox's heart in shape; it is of the genus of the cordiformes, or heart-shells, and differs from the other kinds, in being of a more globular figure.

BUCCA, in anatomy, the cheek.

BUCCÆ MUSCULUS, in anatomy, a name given by some to the muscle more usually called the buccinator, and contrahens labiorem.

BUCCA FERREA, in botany, a name given by Michaeli to a genus of plants, since called *rappia* by Linnæus.

BUCCALES GLANDULÆ are small glands dispersed over the inner side of the cheeks and lips.

BUCCAN, the place where the Buccaniers smoke and dry their meat. The name is also applied to the grate or hurdle, made of Brasil wood, upon which the meat is hung above the fire.

BUCCANIERS', *n. s.* A name assumed by pirates on the coast of America, from boucan, a kind of wooden frame used by the savages of Cayenne for drying flesh or fish.

BUCCANIER, or BUCANIER, one who dries and smokes flesh or fish after the manner of the Indians. The name was particularly given to the first French settlers on the island of St. Domingo, whose sole employment consisted in hunting wild bulls or boars, in order to sell their hides and flesh. It has also been applied to those famous piratical adventurers, chiefly English and French, who joined together to make depredations on the Spaniards of America. The latter had not been long in possession of the West Indies and the continent of America, when other nations, especially the English and French, began to follow them. But though the Spaniards were unable to people such extensive countries

themselves, they were resolved that no other nation should join with them in it; and therefore made war on all those who attempted to settle in any of the Antilles or Carribee islands. The French, however, were at last fortunate enough to acquire some footing in the island of St. Christopher; but, by the time they began to form a regular government, the Spaniards found means to dislodge them. Upon this the fugitives, considering at how great a distance they were from their mother country, and how near to the island of Hispaniola or St. Domingo, the northern parts of which were then uninhabited and full of swine and black cattle, immediately resolved to take possession of that country, in conjunction with some adventurers from Great Britain. The Dutch had promised to supply them plentifully with all kinds of necessaries they might require, in exchange for the hides and tallow they should procure by hunting. These new settlers obtained the name of buccaniers, from their custom of buccaning their beef and pork to preserve it for consumption. And upon some of them growing tired of this new way of life, and commencing planters, many more chose to turn open pirates, trusting to find among those who remained on shore a quick sale for all the plunder they could make at sea. The new body of adventurers were called free-booters, from their making free booty of whatever came in their way. Numbers of emigrants from France, soon joined the settlers in quality of indented servants, though they toiled like slaves during the three years for which they generally bound themselves. Thus the colony consisted of four classes: buccaniers; free-booters; planters; and indented servants; who began to call themselves the body of adventurers. They lived together in perfect harmony, under a kind of democracy; every freeman had a despotic authority over his own family; and every captain was sovereign in his own ship, though liable to be discarded at the discretion of the crew. The planters settled chiefly in the little island of Tortuga, on the northern coast of Hispaniola; but on some of them going to the great island, to hunt with the buccaniers, the rest were surprised by the Spaniards; and all, even those who had surrendered at discretion, were put to the sword or hanged. The Spaniards now resolving to rid the great island of the buccaniers, assembled a body of 500 lance men, who, by their seldom going fewer than fifty in a company, obtained the name of the fifties from their enemies. At first they met with great success; for the buccaniers hunting separately, every one attended by his servants, they were easily surprised. Hence the Spaniards killed numbers, and took many more, whom they condemned to a most cruel slavery. But whenever the buccaniers had time to put themselves into a state of defence, they fought like lions: there are many instances of single men fighting their way through numbers. These dangers, however, and the success of the Spaniards in discovering their boucans, where they used to surprise and cut the throats of them and their servants in their sleep, engaged them to assemble in great numbers, and even to act offensively, in hopes that by so doing they might at last induce the

Spaniards to let them live in peace. But their enemies were intent on their destruction: and the island was turned into a slaughter house. At length the Spaniards had recourse to their old method of surprise, which against enemies of more courage than vigilance was likely to succeed better. This put the buccaniers under a necessity of never hunting but in large parties, and fixing their boucans in the little islands on the coast, whither they retired every evening. The expedient succeeded: and the boucans, by being more fixed, soon acquired the air of small towns. Each boucan ordered scouts every morning to the highest part of the island, in order to reconnoitre the coast, and see if any Spanish parties were abroad. If no enemy appeared, they appointed a place and hour of rendezvous in the evening, and were never absent if not killed or prisoners. When therefore any one of the company was missing, it was not lawful for the rest to hunt again till they had got intelligence of him if taken, or avenged his death if killed. Things continued long in this situation till the Spaniards destroyed all their game, and put the buccaniers under a necessity of betaking themselves to another course of life, and some of them turned planters; and thereby increased some of the French settlements on the coast; others entered among the free-booters. France, who had hitherto disclaimed for her subjects these ruffians, whose successes were only temporary, acknowledged them, as soon as they formed themselves into settlements; and took measure for their government and defence. The hides, and boar-meat, in packs, were long considerable articles of trade in the neighbouring islands. See DOMINGO, St.

The habits of these people were in many respects singular. Their towns, as we have seen, were called boucans; their huts they termed Ajoupas, a word which they borrowed from the Spaniards, and the Spaniards from the natives. These ajoupas lay open on all sides, which was very agreeable to the hardy inhabitants, in a climate where wind and air are so very desirable. Having neither wives nor children, the buccaniers associated by pairs, and mutually rendered each other all the services a master could reasonably expect from a servant, living together in so perfect a community, that the survivor always succeeded his deceased partner. This kind of union or fellowship they called s'emateloter, insailing, and each other, matelot, or sailor, whence was derived the custom of giving, in some parts of the French Antilles, the name matelotage, sailorage, to any kind of society formed by private persons for their mutual advantage. They behaved to each other with the greatest justice and openness, we are told; it would have been a crime to keep any thing under lock and key; but on the other hand, the least pilfering was unpardonable, and punished with expulsion from the community. Indeed there could be no great temptation to steal, when it was reckoned a point of honor never to refuse a neighbour what he wanted; and where there was so little property, it was impossible there should be many disputes. If any happened, the common friends of the parties at variance interposed, and soon put an end

to the difference. As to laws, the buccaniers acknowledged none but some rules drawn up in conventions among themselves. They silenced all objections from strangers, by coolly answering that it was not the custom of the coast; and grounded their right of acting in this manner, on their baptism under the tropic, which freed them, in their opinion, from all obligations antecedent to that marine ceremony. The governor of Tortuga, when that island was again settled, though appointed by the French court, had very little authority over them; they contented themselves with rendering him from time to time some slight homage. They had in a manner shaken off religion. They even laid aside their surnames, and assumed martial names, which long continued in their families. On their marrying, which seldom happened till they turned planters; they took care to have their surnames inserted in the marriage contract; and this practice gave occasion to a proverb in the French Antilles, a man is not to be known till he takes a wife. Their dress consisted of a filthy shirt, dyed with the blood of animals they had killed; a pair of trousers of the same complexion, a thong of leather by way of belt, to which they hung a case containing some Dutch knives, and a kind of short sabre called manchette; a hat without any brim, except a little flap on the front; and shoes of hog skins. Their guns were two feet and a half in the barrel, and of a bore to carry balls of an ounce. Every man had his contract servants, more or fewer according to his abilities; besides a pack of twenty or thirty dogs, among which there was a couple of beagles. Their chief employment at first was ox-hunting; and, if at any time they chased a wild hog, it was rather for pastime, or to make provision for a feast, than for any other advantage. But, in process of time, some of them betook themselves entirely to hunting of hogs, whose flesh they buccaned in the following manner: First, they cut the flesh into very long pieces, an inch and an half thick, and sprinkled them with salt, which they rubbed off after twenty-four hours. Then they dried these pieces in stoves over the fire, made of the skin and bones of the beast, till they grew as hard as a board, and assumed a deep brown color. Pork prepared in this manner will keep in casks above a year; and, when steeped but a little while in lukewarm water, becomes plump and yields a most grateful smell. In hunting they continued the chase till they had killed as many beasts as there were heads in the company. The master was the last to return to the boucan, loaded like the rest with a skin and a piece of meat. Here the buccaniers found their tables ready: for every one had his separate table; which was the first thing, any way fit for the purpose, that came in their way, a stone, the trunk of a tree, and the like. No table-cloth, no napkin, no bread or wine, graced their board; not even potatoes or bananas, unless they found them ready to their hands. When this did not happen, the fat and lean of the game, taken alternately, served to supply the place. A little pimento, and the juice of an orange, was their only sauce; contentment, a good appetite, and abundance of mirth, made every thing agreeable.

Thus they lived till they had completed the number of hides, for which they had agreed with the merchants; when they carried them to Tortuga, or some port of the great island. As the buccaniers used much exercise, and fed only on flesh, they generally enjoyed a good state of health. They were indeed subject to fevers, but this they wholly slighted. The most considerate among them, however, after they had obtained money, turned planters. In their piratical expeditions the buccaniers formed themselves into small companies, consisting of 50, 100, or 150 men each. A boat, of a greater or smaller size, was their only armament. Here they were exposed night and day to all the inclemencies of the weather, having scarce room enough to lie down. A love of absolute independence, the greatest blessing to those who are not proprietors of land, rendered them averse from those mutual restraints which the members of society impose upon themselves for the common good. As the authority they had conferred on their captain, was confined to his giving orders in battle, they lived in the greatest confusion. Like savages, having no apprehension of want, nor any anxiety to preserve the necessaries of life, they were constantly exposed to the severest extremities of hunger and thirst. But deriving, even from their very distresses, a courage superior to every danger, the sight of a ship transported them to a degree of frenzy. They never deliberated on the attack, but it was their custom to board as quickly as possible. The smallness of their vessels, and the skill they showed in the management of them, screened them from the fire of the greater ships; they presented only the fore part of their vessels filled with fusileers; who fired at the port holes with so much exactness, that it entirely confounded the most experienced gunners. As soon as they threw out the grappling, the largest vessels seldom escaped them. In cases of necessity, they attacked the people of every nation, but fell upon the Spaniards at all times. Whenever they embarked on any expedition, they used to pray to Heaven for the success of it; and never came back from the plunder, it is said, but they constantly returned thanks to God for their victory! The ships that sailed from Europe to America seldom tempted their avidity; but they waited for their return, laden with gold, silver, and jewels; when they met a single ship, they were sure to attack her. The Spaniards, who trembled at the approach of the buccaniers, whom they called devils, immediately surrendered. Quarter was granted, if the cargo proved to be a rich one; if not, all the prisoners were thrown into the sea. At first the buccaniers, when they had got a considerable booty, held their rendezvous at the island of Tortuga, to divide the spoil; but afterwards the French went to St. Domingo, and the English to Jamaica. Each person, holding up his hand, solemnly protested, that he had secreted nothing of what had been taken. If any one was convicted of perjury, a case that seldom happened, he was left, as soon as an opportunity offered, upon some desert island, as a traitor unworthy to live in society. Such as had been maimed in any of their expeditions, were first

provided for. If they had lost a hand, an arm, a leg, or a foot, they received £26. An eye, finger, or toe, lost in fight, was valued at only half the sum. The wounded were allowed two shillings and sixpence a day for two months, to enable them to have their wounds taken care of. If they had not money enough to answer these demands, the company engaged in some fresh expedition, till they had acquired a sufficient stock. After this the remainder of the booty was equally divided; the commander only claiming a single share. Every share was determined by lot. If a person had been killed, his part was sent to his relations or friends when known, and when there were no friends or relations to claim it, it was distributed in charity to the poor, and to churches. These duties having been performed, the victors indulged themselves in gaming, wine, women, and every species of debauchery. The Spanish colonies, reduced almost to despair in finding themselves a perpetual prey to these ruffians, grew weary of navigation, and formed themselves into many distinct and separate states. They were sensible of the inconveniences arising from such conduct, but the dread of falling into the hands of these rapacious monsters, had greater influence over them than the dictates of honor, interest, and policy; and gave rise to a spirit of total inactivity. This despondency increased the boldness of the buccaniers. As yet they had only appeared in the Spanish settlements to carry off some provisions when they were in want of them. They no sooner found their captures begin to diminish, than they determined to recover by land what they lost at sea. The richest and most populous countries of the continent were plundered and laid waste. The culture of lands was equally neglected with navigation; and the Spaniards dared neither appear in their public roads, nor sail in the latitudes which belonged to them.

Among those who signalled themselves in this new species of excursion, was Montbar, a gentleman of Languedoc. Having, in his infancy, met with a circumstantial account of the cruelties practised by the Spaniards, in the conquest of the New World, he conceived an aversion which he carried to a degree of frenzy against that nation; and having heard that the buccaniers were the most inveterate enemies to the Spanish name, he embarked on board a ship to join them. In his passage he met with a Spanish vessel; attacked, and immediately boarded it. Hurrying twice from one end of the ship to the other, he levelled everything that opposed him. When he had compelled them to surrender, leaving to his companions the dividing of a rich booty, he contented himself with the savage pleasure of contemplating the dead bodies of the Spaniards, lying in heaps together. Fresh opportunities soon occurred that enabled him to glut his inveterate hatred. The ship arriving on the coast of St. Domingo, the buccaniers there informed him that their enemies had overrun the country, laid waste their settlements, and carried off all they could. Montbar immediately offered to join an expedition then preparing, 'not as commander,' said he, 'but as the foremost to expose myself to danger.' The buccaniers perceiving that he

was such a man as they wanted, cheerfully accepted his offer. The same day they overtook the enemy, and Montbar attacked them with an impetuosity that astonished the bravest. Scarce one Spaniard escaped the effects of his fury. The remaining part of his life was equally distinguished. The Spaniards suffered so much from him, both by land and at sea, that he acquired the name of the Exterminator.

Their associations now became more numerous. The first that was considerable was formed by Lolonois, who, from the abject state of a bondsman, had gradually raised himself to the command of two canoes, with twenty-two men. With these he took a Spanish frigate on the coast of Cuba. He then repaired to Port-au-Prince, in which were four ships, fitted out purposely to pursue him. He took them, and threw all the crews into the sea, except one man, whom he saved, in order to send him with a letter to the governor of the Havannah, acquainting him with what he had done, and assuring him that he would treat in the same manner all the Spaniards that should fall into his hands, not excepting the governor himself, if he should be so fortunate as to take him. After this he ran his canoes and prize ships aground, and sailed with his frigate only to Tortuga. Here he met with Michael de Baseo, who had distinguished himself by having taken, even under the cannon of Porto Bello, a Spanish ship, estimated at £218,500, and by other actions equally brave and daring. These two soon collected together 440 men. This body, the most numerous the buccaniers had yet been able to muster, sailed to the bay of Venezuela, which runs up into the country fifty leagues. The fort that was built at its entrance was taken; the cannon spiked; and the whole garrison, consisting of 250 men, put to death. They then re-embarked, and went to Maracaybo, built on the western coast of the lake, at the distance of ten leagues from its mouth. This city, which had become rich by its trade in skins, tobacco, and cocoa, was deserted, but the inhabitants had retired with their effects to the other side of the bay. Exasperated at this, they set fire to Gibraltar. Maracaybo would have shared the same fate, had it not been ransomed. Besides the sum they thus received, they also carried off with them all the crosses, pictures, and bells, of the churches; intending, as they said, to build a chapel in the island of Tortuga, and consecrate this part of their spoils to sacred purposes.

About the same time Morgan, the most renowned of the English buccaniers, sailed from Jamaica to attack Porto Bello. His plan of operations was so well contrived, that he surprised the city and took it without opposition. The conquest of Panama was an object of much greater importance. To secure this, Morgan thought it necessary to sail in the latitude of Costa Rica; and procure some guides in the island of St. Catharine's, where the Spaniards confined their malefactors. This place was strongly fortified, and ought to have held out for ten years against a considerable army. Notwithstanding this, the governor, on the first appearance of the pirates, sent privately to concert measures how he might surrender himself with-

out incurring the imputation of cowardice. The result of this was, that Morgan in the night attacked a fort at some distance, and the governor sallied out of the citadel to defend the post, the assailants attacked him in the rear, and took him prisoner, which led to a surrender of the place. The buccaniers, after having totally demolished the fortifications, and put on board their vessels a prodigious quantity of ammunition which they found at St. Catharine's, steered their course towards the Chagre. At the entrance of this considerable river, a fort was built upon a steep rock, and this bulwark, very difficult of access, was defended by an officer whose abilities were equal to his courage. The buccaniers, for the first time, here met with a determined resistance; but while it was doubtful whether they would succeed, or be obliged to raise the siege, the commander was killed, and the fort took fire. They now therefore made themselves masters of the place, where Morgan left his vessels at anchor, and sailed up the river in sloops, till he came to Cruces, where it ceases to be navigable. He then proceeded by land to Panama, five leagues distant; though he met with a considerable body of troops in the neighbourhood, he put them to flight with the greatest ease, and entered the city, now abandoned. Here were found prodigious treasures, and several rich deposits in the neighbouring forests. Having burnt the city, they set sail with a great number of prisoners, who were ransomed in a few days; and came to the mouth of the Chagre with a prodigious booty.

In 1603 an expedition of the greatest consequence was formed by Van Horn, a native of Ostend, but who had served all his life among the French. His intrepidity would never let him suffer the least signs of cowardice among those who associated with him. In the heat of an engagement he went about his ship; observed his men; and immediately killed those who shrank at the sudden report of a pistol, gun, or cannon. This extraordinary discipline had made him become the terror of the coward, and the idol of the brave. He readily shared with the men of spirit and bravery the immense riches that were acquired by so truly warlike and diabolical a disposition, and he generally sailed in a frigate which was his own property. New expeditions requiring greater numbers to carry them into execution, he took to his assistance Gramont, Godfrey, and Jonque, three Frenchmen, distinguished by their exploits; and Lawrence de Graff, a Dutchman. These famous commanders were joined by 1200 buccaniers, and sailed in six vessels for Vera Cruz. The darkness of the night favored their landing, which was effected at three leagues from the place, where they arrived without being discovered. The governor, the fort, the barracks, and the posts of the greatest consequence, were all taken by the break of day. All the citizens, men, women, and children, were shut up in the churches, whither they had fled for shelter. At the door of each church were placed barrels of gunpowder to blow up the building. A buccanier with a lighted match was to set fire to it upon the least appearance of an insurrection. While the city was kept in such terror, it was

easily pillaged; and after the buccaniers had carried off what was most valuable, they made a proposal to the citizens in the churches, to ransom their lives and liberties at a contribution of £437,500. The unfortunate people, who had neither ate nor drank for three days, readily accepted the terms that were offered them. Half of the money was paid the same day; the other part was expected from the internal parts of the country; when there appeared on an eminence a considerable body of troops advancing, and near the port a fleet of seventeen ships from Europe. At the sight of this armament the buccaniers, without any marks of surprise, retreated quietly with 1500 slaves as hostages for the rest of the money. Their retreat was equally daring. They boldly sailed through the midst of the Spanish fleet; which let them pass without firing a single gun, and were in fact rather afraid of being attacked and beaten. The Spaniards would not probably have escaped so easily, if the vessels of the pirates had not been laden with silver, or if the Spanish fleet had been freighted with any other effects but such merchandise as was little valued by the buccaniers.

A year had scarce elapsed since their return from Mexico, when they were seized with the rage of plundering Peru. It is somewhat remarkable, that both the English and French associations had projected this plan at the same time, without any communication, or intercourse. About 4000 men were employed in this expedition. Some of them came by Terra Firma, others by the Straits of Magellan, to the place that was the object of their wishes. If the intrepidity of these barbarians had been directed by a skilful commander, they would doubtless have deprived the Spaniards of this important colony. But their character was an invincible obstacle to such an union: they always formed themselves into several distinct bodies, sometimes even so few in number as ten or twelve, who acted together, or separated, as caprice directed. Grogner, Lecuyer, Picard, and Le Sage, were the most distinguished officers among the French: David, Samms, Peter, Wilner, and Towley, among the English. Such of those adventurers as had come into the South Sea by the Straits of Darien, seized upon the first vessel they found upon the coast. Their associates, who had sailed in their own vessels, were not much better provided. Weak however as they were, they beat several times the squadrons that were fitted out against them. When there were no more ships to be taken, they made descents upon the coast for provisions, or went by land to plunder those cities where the booty was secured. They successively attacked Seppa, Puebla-Nuevo, Leon, Realejo, Puebla-Viejo, Chiriquita, Lesparso, Granada, Villa-Nicoya, Tecoaiteca, Mucmeluna, Chilotea, New Segovia, and Guayaquil, the most considerable of all these places. Many of the towns were taken by surprise; and most of them deserted by their inhabitants, who fled at the sight of the enemy. As soon as the pirates took a town it was set on fire, unless a sum proportionate to its value was given to save it, and the prisoners were massacred without mercy, if not quickly ransomed. Silver being

too common, and too weighty for its current value, was often rejected.

While these piracies were committed in the southern ocean, the northern was overrun in a similar manner by Gramont, a native of Paris, who had distinguished himself in a military capacity in Europe; but his passion for wine, gaming, and women, had dissipated his fortune, and obliged him to join the pirates. He was polite, generous, and eloquent; had a sound judgment, and soon rose to be considered as the chief of the French buccaniers. Under his command they embarked in 1685 to attack Campeachy. They landed without opposition. But at some distance from the coast they were attacked by 800 Spaniards, who were beaten and pursued to the town; which both parties entered at the same time. The cannon found was immediately levelled against the citadel. As it had very little effect, they were contriving some stratagem to enable them to become masters of the place, when intelligence was brought that it was abandoned. There remained in it only a gunner, an Englishman and an officer of courage, who chose rather to expose himself to the greatest extremities, than basely fly. On the fall of the place the commander of the buccaniers received him with distinction, and gave him his liberty and effects, with some valuable presents. The conquerors of Campeachy spent two months in plundering the environs of the city, from twelve to fifteen leagues round. When all the treasure they had collected was deposited in the ships, a proposal was made to the governor of the province, who still kept the field with 900 men, to ransom his capital. His refusal determined them to burn it, and demolish the citadel. In 1697 buccaniers, to the number of 1200, were induced to join a squadron of seven ships that sailed from Europe under the command of Pointis, to attack the famous city of Carthagena. This was certainly one of the most difficult enterprises that could be attempted in the New World. The situation of the port, the strength of the place, the badness of the climate, were obstacles that seemed insurmountable to any but buccaniers. But every obstacle yielded to their valor; the city was taken, and booty gained to the amount of £1,750,000. Their rapacious commander, however, as soon as they set sail, offered £5,250 for the share of those who had been the chief instruments in procuring so considerable a spoil. The buccaniers, exasperated at this treatment, resolved immediately to board his vessel, the Sceptre, which was at that time too far distant from the rest of the ships to expect assistance, and he was upon the point of being massacred, when one of the malcontents proposed to return to Carthagena, and there obtain a further booty. The proposal was received with general applause, and without further deliberation all the ships sailed towards the city. They entered without resistance, and, having shut up the men in the great church, exacted payment of £210,750, the amount of the booty in dispute, promising to retreat immediately upon their compliance, but threatening the most dreadful vengeance if they refused. Upon this a priest of the city mounted the pulpit, and persuaded the people to yield up

all their gold, silver, and jewels. The collection however, not furnishing the sum required, the city was ordered to be plundered. After amassing all they could, these adventurers again set sail; when they were met by a fleet of Dutch and English vessels. Both nations were now in alliance with Spain, and several of the pirates were taken and sunk; the rest escaped to St. Domingo. Such was the last memorable event in the history of the buccaniers. The separation of the English and French interests in the war that ensued on account of the prince of Orange; the successful means they both made use of to promote the cultivation of land in their colonies, by the assistance of some of these men; and the prudence they showed in entrusting the most distinguished of them with civil and military employments, together with the protection they were both under a necessity of affording to the Spanish settlements, which till then had been a general object of plunder; these circumstances, and various others, beside the impossibility there was of supplying the place of those leaders, who were continually dropping off, concurred to put an end to a society as extraordinary as ever existed. Without any regular system, without laws, without subordination, and even without any fixed revenue, they became the astonishment of the age in which they lived.

BUCCATA, in entomology, a species of conops. Color ferruginous; abdomen hooked and gray; face white; wings clouded; inhabiting Europe.

BUCCATUS, a species of oestrus, color griseous; face white, and dotted with black; found in South Carolina.

BUCCELLARII, an order of soldiery under the Greek emperors, appointed to guard and distribute the ammunition bread. Authors differ however as to their office and quality. Some give the denomination to parasites in the courts of princes, some make them the body guards of emperors, and some fancy they were only such as emperors employed in putting persons to death privately.

BUCCELLATIO, in surgery, a term used by some for stopping the bleeding of an artery or vein, by lint.

BUCCELLATION, *n. s.* From Lat. *bucella*, a mouthful. In some chemical authors, signifies a dividing into large pieces.

BUCCELLATUM, in ancient military affairs, camp bread, or biscuit baked hard and dry, for lightness and keeping. Soldiers always carried with them enough for a fortnight, and sometimes much longer, during the time that military discipline was kept up. See **BAGGAGE**.

BUCCINA, an ancient musical and military instrument, usually taken for a kind of trumpet. Festus defines it a crooked horn, played on like a trumpet. Vegetius observes, that the buccina was bent in a semicircle, in which respect it differed from the tuba or trumpet. It is hard to distinguish it from the cornu, or horn, unless it was something less, and not quite so crooked. It certainly was different, as we never read of the cornu used by the watch. Besides, the sound of the buccina was sharper, and to be heard much farther than either the cornu or the tuba. In

Scripture a similar instrument, used both in war and in the temple, was called *kiren-jobel*, rams' horn, &c. It was used among the Jews to proclaim their feast-days, new moons, jubilees, sabbatic years, and the like. At Lacedemon, notice was given by the *buccina*, when it was supper time; and the like was done at Rome, where the *grandees* had a *buccina* blown both before and after they sat down to table.

BUCCINA AURIS, in middle age writers, the drum of the ear.

BUCCINATOR, in anatomy, a muscle on each side of the face, common to the lips and cheeks, and making the inner substance of the latter.

BUCCINATOR NOMINUM, a slave, among the ancient Romans, who attended the public crier.

BUCCINUM, in conchology, the whelk, a genus of shell fish belonging to the order of *vermes testaceæ*. This animal is one of the snail kind. The shell is univalve, spiral, and gibbous. The aperture is oval, ending in a small strait canal, with a retuse beak or projection; pillar-lip expanded. A hundred and ninety species are scattered over the shores of the different parts of the globe. They are thus divided by Gmelin. *Ampullacea* inflated, rounded, thin, subdiaphanous, and brittle. *Cassidea caudata*, with a short, exserted, reflected beak; lip unarmed outwardly. *Cassidea unguiculata*, lip prickly outwards on the hind part; in other respects resembling the last division. *Callosa*, pillar-lip dilated and thickened. *Delrita*, pillar-lip appearing as if worn flat. *Lævigata*, smooth; and not enumerated in the former divisions. *Angulata*, angular; and not included in the former divisions. *Turrita*, subulate and smooth. The six following species are found in the British seas: 1. *B. lapillus*, or massy whelk, one of the British shells that produce the purple dye analogous to the *purpura* of the ancients. See *MUREX*. 2. *B. minutum*, or small whelk, with five spires, striated spirally, ribbed transversely; is less than a pea, and is found in Norway. 3. *B. pullus*, or brown whelk, with five spires, striated, waved, and tuberculated; aperture wrinkled; upper part replicated; and in length five-eighths of an inch. 4. *B. reticulatum*, with spires scarcely raised, and strongly reticulated, is of a deep brown color, and of an oblong form, and of the size of a hazel nut. The aperture is white, glossy, and denticulated. 5. *B. striatum*, has eight spires, with elevated striæ, undulated near the apex. It is nearly four inches long. 6. *B. undatum*, the waved whelk, with seven spires, spirally striated and deeply and transversely undulated. It is three inches long, and inhabits deep water.

BUCCLEUGH, a village of Scotland, in the county of Selkirk, from which the noble family of Scott have the title of Duke.

BUCCO, the barbet, in ornithology, a genus belonging to the order of *picæ*. The beak is cultrated, turned inwards, compressed on the sides, and emarginated on each side at the apex; and there is a long slit below the eyes. The nostrils are covered with feathers. The feet have four toes, two before and two behind. Ornithologists enumerate nineteen species, all found in Asia, Africa, or the southern parts of America.

BUCCULA, in anatomy, the fleshy part under the chin.

BUCCULA, in antiquity, the umbo or prominent part in the middle of a shield; thus called because usually made in the form of a mouth or face.

BUCENTAUR, a galeas, or large galley, of the doge of Venice, adorned with pillars on both sides, and a purple silk awning, and gilt over from the prow to the stern. In it the doge received the great lords and persons of quality that went to Venice, accompanied with the ambassadors, counsellors of state, &c. It served also in the magnificent ceremony of ascension day, on which the doge threw a ring into the sea to espouse it, and to denote his dominion over the gulph of Venice. Some ascribe the name to its being ornamented with the figure of a centaur; and trace its origin to the year 1177.

BUCEPHALA, or **BUCEPHALUS**, in ancient geography, a town built by Alexander, on the west side of the Hydaspis, a river of the *Ilither India*, in memory of his horse.

BUCEPHALA, in ornithology, a species of *anas* found in North America. Color whitish; back and wings black; the head large, silky, and shining. This is the *petit canard*, à grosse tête, of Buffon.

BUCEPHALIA, in entomology, a species of *bombyx* commonly called the buff-top moth, found feeding on the oak, lime, and willow trees.

BUCEPHALON, in botany. See *TROPÆUM*.

BUCEPHALUS, the horse of Alexander the Great, which was killed in the action with *Porus*, after crossing that river. Others say, this horse died of age, thirty years old; and not in the battle, but some time after. *Hesychius* says, his being marked on the buttock with the head of an ox, gave rise to his name. This animal, who had so long shared the toils and dangers of his master, had formerly received signal marks of royal regard. Having disappeared in the country of the *Uxii*, Alexander issued a proclamation, commanding his horse to be restored, otherwise he would ravage the whole country with fire and sword. This command was immediately obeyed. 'So dear,' says *Arrian*, 'was *Bucephalus* to Alexander, and so terrible was Alexander to the Barbarians!'

BUCEPHALUS, in entomology, a species of *cryptocephalus*. Color *cyaneus*; the mouth, margin of the thorax, and the legs, red.

BUCER (Martin), one of the first reformers at Strasburg, was born in 1491, in Alsace; and took the religious habit of St. Dominic at seven years of age: but meeting with the writings of Martin Luther, and comparing them with the Scriptures, he began to entertain doubts of the Romish religion. After some conferences with Luther at Heidelberg, in 1521, he adopted most of his sentiments; but in 1532 gave the preference to those of *Zuinglius*. He assisted in many conferences; and in 1548 was called to Augsburg to sign the agreement between the Papists and Protestants, called the *Interim*. His warm opposition to this project exposed him to many difficulties and hardships; the news of which reaching England, where his fame had already arrived, *Cranmer*, archbishop of Canterbury

gave him an invitation to come over, which he readily accepted. In 1549 an handsome apartment was assigned him in the university of Cambridge, and a salary to teach theology. King Edward VI. had the greatest regard for him. Being told that he was very sensible of the cold of the climate, and suffered much for want of a German stove, he sent him 100 crowns to purchase one. He died in 1551, and was buried at Cambridge with great funeral pomp. In the reign of Mary, five years after he was buried, his body was dug up and publicly burnt, and his tomb demolished; but it was afterwards re-built by order of queen Elizabeth. He composed many works, among which are Commentaries on the Evangelists and Gospels.

BUCERAS, in botany, fenugreek. See TRIGONELLA.

BUCEROS, in ornithology, a genus belonging to the order of picæ. The beak is convex, cultrated, very large, and serrated outwards: the forehead is naked, with a bony gibbosity. The nostrils are behind the base of the beak. The tongue is sharp and short. The feet of the gressarii kind, i. e. the toes are distinct from each other. The species belonging to this genus are, Bicornis, Abyssinicus, Africanus, Malabaricus, hydrocorax, rhinoceros, galeatus, panayensis, manillensis, nasutus, albus, and obscurus. The principal are: 1. *B. bicornis*, with a flat bony forehead, and two horns before. The body is black, and about the size of a hen; but the breast, belly, and thighs, are white. There is a white spot on the wing; the tail is long, with ten black prime feathers, and the four outermost on each are white. The feet are greenish, with three toes before and one behind. It is a native of China, and called Calao by Willoughby and other authors. The pied horn-bill, described by Latham from a living specimen which came from the East Indies, the author supposes to be the same species, differing merely in sex or age. The manners of this bird were peculiar: it would leap forwards or sideways with both legs at once, like a magpie: when at rest it folded its head back between the wings: the general air and appearance was rather stupid and dull, though it would sometimes put on a fierce look when surprised: it would eat lettuce, after bruising it with its bill, and swallow raw flesh; as well as devour rats, mice, and small birds: it had different tones of voice; sometimes a hoarse sound in the throat, most like oück, oück; at other times very hoarse and weak, not unlike the clucking of a Turkey hen. This bird used to display its wings and enjoy itself in a warm sun, but shivered in the cold; and, as the winter approached, died, unable to bear the severity of the climate, so different to its nature. Another variety, the calao, is about the size of a hen. It inhabits the Philippine islands, and has a cry more like that of a hog or a calf than of a bird. The Gentoos rank it among their gods, and worship it. It lives altogether in woods, feeding on fruits, such as the Indian fig, pistachios, &c. which it swallows whole; and after the external parts have been digested, it brings up the nuts again whole, with the kernels fit for vegetation. 2. *B. hydrocorax*, the Indian crow of Ray, has a plain bony fore-

head without any horns. The body is yellowish above, and black below. It inhabits the Molucca isles. Willoughby observes, that it resembles our raven in the bill, but is red on the temples like some kinds of turkies; has wide nostrils and ill-favored eyes; and that it feeds chiefly on nutmegs, whence its flesh has a fine aromatic relish. In its native place it is frequently tamed, and is useful in destroying rats and mice in houses. 3. *B. nasutus*, has a smooth forehead, is about the size of a magpie, and is a native of Senegal. These birds are very common at Senegal, and other warm parts of the old continent, where they are called tock. When taken young they immediately become familiar. In their wild state they feed on fruits, but when domesticated eat bread, and almost any thing that is offered to them. 5. *B. rhinoceros* has a crooked horn in the forehead joined to the upper mandible. It is a native of India. It is said to feed on flesh and carrion; and to follow the hunters for the purpose of feeding on the entrails of the beasts which they kill. They chase rats and mice, and after pressing them flat with the bill in a peculiar manner, and tossing them up into the air, swallow them whole immediately on their descent.

BUCHAN, a district on the east coast of Scotland, lying partly in the county of Aberdeen and partly in that of Banff. The latter district extends northwards from the Ugie to the sea, and westward as far as the Deveron, comprehending a tract of twenty miles in length, and nine in breadth, and is more free from hills and mountains than any other county of the same extent in Scotland. That part which lies in Aberdeenshire, extends south to the river Ythan. It is inhabited chiefly by Lowlanders, and gives the title of earl to the family of Erskine; of which family, however, Erskine of Mar is the chief.

BUCHANAN, a parish of Scotland, in Stirlingshire, anciently called Inch-cailloch, about twenty-seven miles long and nine broad. A long tract of it lies on the north side of Loch-Lomond, and the Grampian hills stretch through it, from south-west to north-east. The river Forth has its rise in the upper end of the parish; and the Endrick runs through it. Some of the islands in Loch-Lomond belong to this parish, on one of which, Inch-cailloch, lately stood the parish church. There are besides three small lakes, and some very extensive oak-woods. In Craighrostan are several caves, one of which afforded shelter to king Robert Bruce, and is known by the name of king Robert's cave. A good limestone quarry has lately been opened. On the side of Loch-Lomond stands the seat of the duke of Montrose. At Inversnaid is a small fort, on which a guard is mounted by a detachment from Dumbarton castle.

BUCHANAN (George), a celebrated Latin poet, was born in February 1506. A small farm called the Moss, two miles from the village of Killearn, in Stirlingshire, was the property of his father, and the place of his nativity. George, however, might have been confined to toil at the lowest employments of life, if the generosity of his uncle, George Heriot, had not assisted him in his education, and enabled him to pursue for

two years his studies at Paris, after his father's death. But that short space had scarcely elapsed, when the death of his benefactor obliged him to return to his country, and forsake for a time the paths of science. He was yet under his twentieth year, and, in this extremity, he enlisted as a common soldier, under John duke of Albany, who commanded the troops which France had sent to assist Scotland in the war against England. But he was disgusted with the fatigues of one campaign; and fortunately, John Major, then professor of philosophy at St. Andrew's, hearing of his necessity and his merit, afforded him a temporary relief. He now became the pupil of Maiz, a celebrated teacher in that university, under whom he studied logic; and followed his tutor to Paris, where he was invited to teach grammar in the college of St. Barbe. In this occupation he was found by the earl of Cassilis, with whom, having remained five years at Paris, he returned to Scotland. He next acted as preceptor to the famous earl of Murray, the natural son of James V. While thus occupied, he suddenly found his life was in danger from his enemies, the Franciscan monks, who, enraged at the poignant satires he had written against them, branded him with the appellation of atheist. Cardinal Beaton gave orders to apprehend him, and king James V. was bribed with a considerable sum to permit his execution. He was seized accordingly; but escaping the vigilance of his guards, he fled into England. Henry VIII. at all times the slave of caprice and passion, was then burning at the same stake the Lutheran and the Papist. His court did not suit a philosopher or a satyr. After a short stay, Buchanan crossed the sea to France; and, to his extreme disappointment, found at Paris, cardinal Beaton, as ambassador from Scotland. On this, he retired privately to Bourdeaux, and met with Andrew Govea, a Portuguese of great learning and worth, with whom he had formerly been acquainted, and who was employed in teaching a public school. He acted for some time as the assistant of his friend; and, during the three years he resided at this place, he composed the tragedies which do him so much honor. It was here also that he wrote some of the most beautiful of those poems, in which he rallied the Muses, and threatened to forsake them, as not being able to maintain their votary. About this time also, he presented a copy of verses to the emperor Charles V. who happened to pass through Bourdeaux. His enemies, meantime, were not inactive. Cardinal Beaton wrote to the archbishop of Bourdeaux, inviting him to punish this most pestilent of all heretics. The archbishop, however, on enquiry, declined molesting him. Meantime Govea being called upon by the king of Portugal, to establish an academy at Coimbra, entreated Buchanan to accompany him. He consented, but had not been a year in Portugal, when Govea died, and left him exposed to the malice of his inveterate enemies the monks. They loudly objected to him that he was a Lutheran; that he had written poems against the Franciscans; and had been guilty of the abominable crime of eating flesh in lent. He was confined to a monastery, till he should learn what

these men fancied to be religion; and they engaged him to translate the Psalms into Latin verse; a task which every man of taste knows with what admirable skill and genius he performed. On obtaining his liberty, he had the promise of a speedy promotion from the king of Portugal; the issue of which, his aversion to the clergy did not allow him to wait. He hastened to England; but the perturbed state of affairs during the minority of Edward VI. not giving him the prospect of any security, he again set out for France. He had not been long there, when he published his *Jephthes*, which he dedicated to the marshal de Brissac. This patron did not want generosity, and sent him to Piedmont, as preceptor to his son Timoleon de Cossi, an employment in which he continued several years; and, during the leisure it afforded him, he fully examined the controversies which now agitated Europe, and finished many of his smaller poems. After this, he returned to Scotland, and made an open profession of the reformed faith: but soon once more quitted his native country for France. Queen Mary, however, having determined that he should have the charge of educating her son, recalled him; and, till the prince should arrive at a proper age, he was nominated principal of St. Andrew's. His success as James's preceptor is well known. When it was observed to him that he had made his majesty a pedant: 'it is a wonder,' replied he, 'that I have made so much of him.' During the misfortunes that befel the amiable but imprudent Mary, he joined the party of the earl of Murray, and, at his earnest desire, wrote the *Detection*, a work which his greatest admirers have read with regret. Having been sent with other commissioners to England, against his mistress, he was, on his return, rewarded with the abbacy of Cross Reguel; made director of the chancery; and some time after a lord of the privy council and privy seal. He was likewise rewarded by queen Elizabeth with a pension of £100 a-year. The last twelve years of his life he employed in composing the history of Scotland. After having vied with the most eminent of the Latin poets, he contested with Livy and Sallust the palm of eloquence and political sagacity: but, like the former of these historians, he was not always careful to preserve himself from the charge of partiality. He died at Edinburgh in 1582, aged seventy-six. Authors speak of him very differently, according to their religious and political principles. As a Latin writer, however, in prose as well as poetry, he has hardly been equalled since the reign of Augustus; nor is he less deserving of remembrance as a friend to the natural liberties of mankind, in opposition to usurpation and tyranny. 'The happy genius of Buchanan,' says Doctor Robinson, 'equally formed to excel in prose and in verse, more various, more original, and more elegant, than that of almost any other modern who writes in Latin, reflects, with regard to this particular, the greatest lustre on his country.' The following is a list of his works: 1. *Rerum Scoticarum Historia*, &c. 2. *Psalmorum Davidis Paraphrasis Poetica*. 3. *De Jure Regni Apud Scotos Dialogus*. 4. *Psalmus civ. Cum Judicio Barclaii*, &c. 5.

Psalmus cxx. Cum Analysi Organica Beuzeri. 6. Baptistes, sive Calumnia. 7. Jephthes, sive Votum, Tragedia. 8. Euripidis Medea et Alcestis, Tragedia. 9. De Caleto Recepto Carmen. 10. Franciscanus et Fratres. 11. Elegia, Silva, &c. 12. De Sphæra. 13. Poemata Miscellanea. 14. Satyra in Cardinalem Lotharingum. 15. Rudimenta Grammaticæ, Thomæ Linacri ex Anglico Sermone in Latinum Versa. 16. An Admonition to the True Lords. 17. De Prosodi. 18. Chamæleon, 1572. 19. Ad Viros sui Seculi Epistolæ. 20. Literæ Regiæ Scotiæ ad com. Bothwelliæ. 21. A Detection of the Doings of Mary Queen of Scots, and of James Earl of Bothwell, against Henry Lord Darnly. 22. Hendecasyllabi, et Tambi. 23. Fratres Fraterrimi. 24. Epigrammata. 25. Vita ab Ipso Scripta Biennio Ante Mortem. 26. Life of Mary Queen of Scots. These have been severally printed often, and in various countries. An edition of his whole works was printed at Edinburgh, in 1704, in two volumes folio. An elegant monument was erected to his memory in 1788, at Killearn.

BUCHANAN (Claudius), D.D., was born at Cambuslang, near Glasgow, in 1766, and entered the university of that city. In 1787 he came to London, and was articled as clerk to an attorney. But, through the recommendation of the Rev. John Newton, was sent by Mr. Thornton, of Clapham, to Queen's college, Cambridge. Being appointed, in 1798, chaplain to the East India Company at Bengal, he was chosen vice-provost and classical professor of the college founded by the Marquis of Wellesley at Fort William. In 1806 he returned to England, and was honored with a diploma by the Glasgow university, as also by that of Cambridge, to which he presented some valuable manuscripts. He died in 1815, while employed in preparing an edition of the Syriac Testament. His works are: 1. Christian Researches in Asia. 2. The First Four Years of the College at Fort William. 3. Memoir on the Expediency of an Ecclesiastical Establishment in India. 4. The Three Eras of Light, two discourses at Cambridge. 5. A brief View of the state of the Colonies of Great Britain and her Asiatic Empire, in respect to Religious Instruction. 6. Sermons on Interesting Subjects. 7. A Letter to the East India Company, in reply to the Statements of Mr. Buller, concerning the idol Juggernaut. 8. Address delivered at a special Meeting of the Church Missionary Society to four Ministers destined for Ceylon and Tranquebar.

BUCHAN-NESS, a promontory of Scotland, of which it is the farthest point, and the most eastern of all Scotland. It is near Peterhead.

BUCHNERA, in botany, a genus of the angiospermia order, in the didynamia class of plants: CAL. obsoletely five-toothed: COR. with a five-cleft border, equal; the lobes heart-shaped. The fruit is a capsule of an oblong oval figure, pointed at the end, containing two cells, and opening at the top into two parts. The seeds are numerous, and of an angular figure. There are fourteen species, natives of the Cape and India.

BUCHOREST, or BUCHAREST, a pretty large

town of Turkey in Europe, in Wallachia, and the ordinary residence of a hospodar. The houses are mean and very ill built, except a few that belong to the principal persons. In 1716 a party of Germans from Transylvania entered this town, and took the prince prisoner with all his court, and carried them off. The prince to regain his liberty, gave up that part of Wallachia, which lies between the river Aluth and Transylvania, to the emperor, in 1718. But after the fatal battle of Crotzka, in 1737, the emperor was obliged to restore this part of Wallachia to the hospodar by the treaty of Belgrade.

BUCCIDA, in botany, a genus of the order monogynia, in the decandria class of plants; natural order twelfth, holoracæ: CAL. is indented in five segments: COR. none; and the fruit is a single-seeded berry. There are two species: 1. B. capitata; a native of Montserrat; with flowers in headed spikes; wedge-form leaves, with a villous ciliate margin. 2. B. buccera mangle; with elongated spikes; leaves wedge-form, with a villous ciliate margin. A native of Jamaica.

BUCK, *n. s.* } Goth. Swed. Tent. and Belg. BUCKE'STALL, } *buck*; Sax. bucc; Sans. *bok*, BUCK'ING. } *Per. svov. Βηκη*; Welsh, *broch*; Arm. *bouc*; Fr. *bouc*; Ital. *becco*. An animal, striking or butting with the horns; the male of deer and goats, of rabbits, and some other animals.

And many an hart and many an hinde,
Was both before me and behinde;
Of fawnes, sowers, *buckes*, does,
Was ful the wodde; and many roes.

Chaucer's Boke of the Duchesse.

Bucks, goats, and the like, are said to be tripping or salient, that is, going or leaping. *Peacham.*

The chief time of setting traps, is in their bucking time. *Mortimer.*

BUCK', *v. & n.* } Goth. *bauck*; Sax. *buc*; BUCK'ET, } Belg. *bac*; Teut. *bauch*, BUCK'BASKET, } *lauch*, *laug*; which seem to BUCK'WASHING. } be formed from *ach*, *auch*, *aug*, water; verb Teut. *bauchen*; Swed. *byke*; Fr. *buquer*; Arm. *buga*, Ital. *bucato*; Span. *bugodo*. A tub or cask; a lie for washing; urine: to wash with lie. The noun is applied both to things washed, and the liquor in which they are washed. Bucket is the diminutive of buck.

Now up, now down, as *boket* in a well. *Chaucer.*

Here is a basket; he may creep in here, and throw foul linen upon him, as if it were going to bucking. *Shakspeare.*

'They conveyed me into a buckbasket; rammed me in with foul shirts, foul stockings, and greasy napkins. *Id.*

Buck! I would I could wash myself of the buck: I warrant you, buck, and of the season too it shall appear. *Id.*

Of late, not able to travel with her furred pack, she washes *bucks* here at home. *Id.*

Now is this golden crown like a deep well,
That owes two *buckets*, filling one another;
The emptier ever dancing in the air,
The other down unseen, and full of water. *Id.*

Buck, the male of the fallow deer; and also of rabbits and other animals. A buck the first year is called a fawn, the second a pricket, the

third a sore, the fourth a sore, the fifth a buck of the first head, and the sixth a great buck. See **DEER AND HUNTING.**

BUCKINGHAM, a county of the United States, in Virginia, bounded on the north by James river, which separates it from Fluvanna; on the south-east by Cumberland; on the south-west by Campbell; and on the south by the Appamattox, which divides it from Prince Edward County. It is sixty-five miles long and thirty broad.

BUCKINGHAMSHIRE, or BUCKS, is an inland county of England, bounded on the north by Bedfordshire and Northamptonshire; on the east by Bedfordshire, Hertfordshire, and Middlesex; on the west by Oxfordshire and Northamptonshire; and on the south by Berkshire, from which it is separated by the Thames.

Its figure is that of a crescent, with a jagged outline; its greatest length from north to south about forty-five miles, its breadth about eighteen, and its circumference 138 miles, containing 518,400 statute acres, according to the report of the Board of Agriculture, but only 473,720, according to the parliamentary returns of the poor's rate. It has fifteen market towns, and returns fourteen members to parliament: viz. two for the county; two for Buckingham; two for Aylesbury; two for Wycombe; two for Amersham; two for Wendover; and two for Marlow. There are seven deaneries in it. Though in the diocese of Lincoln, four parishes are in the peculiar jurisdiction of the archbishop of Canterbury, and four others are in the diocese of London, and in the jurisdiction of the archdeacon of St. Albans. The great tithes of ninety-two parishes are in lay hands, and most of the remainder are held by lay leases. The Summer assizes are held at Buckingham, the Lent assizes at Aylesbury. The quarter-sessions are always held at Aylesbury. Buckinghamshire contains many magnificent seats; among which the most celebrated are Stowe, the seat of the marquiss of Buckingham; Bulstrode, formerly belonging to the Rutland family; Dropmore, the seat of lord Grenville, Taploe house, and Wycombe abbey.

Its principal rivers are the Thames, the Ouse, and the Colne. The Colne forms a part of its eastern boundary, separating it from Middlesex; it passes near Denham and Iver, through Colnbrook, to which it gives its name, and near Horton and Wyradesbury, and falls into the Thames between Ankerwyke and Staines.

The Ouse slow winding through a level plain Of spacious meads, with cattle sprinkled o'er, enters the west side of the county, and passing Water Stratford, pursues an irregular course to Buckingham, whence it winds through a fertile meadow tract, in the neighbourhood of Stony Stratford, Newport Pagnell, and Olney, and then turning to the east, leaves the county near Snelson, in the parish of Lavendon. Old father Thames forms part of the boundary, and is the chief ornament of the southern part of the county, dividing it from Berkshire, during a course of about thirty miles. In its progress it passes Medmenham, Great Marlow, Hedsor, Taplow, Boveney, Eton, and Datchet, and is

navigable throughout. The Grand Junction Canal enters the county near Wolverton, where it is carried across the valley, over the river Ouse, by a magnificent aqueduct, of about three quarters of a mile in length; thence flowing to the south, it passes Fenny Stratford, Stoke-Hammond, Cinslade, and Ivinghoe, into Hertfordshire. From a branch of the canal at Old Stratford, a cut has been made to Buckingham; and another from Bulbourne to Wendover.

The southern part of this county, beyond the Thames, is principally occupied by the Chiltern Hills, having a chalk soil, intermixed with flints. They stretch across the country from Bedfordshire to Oxfordshire, forming a part of that great chain which extends from Norfolk to Dorset. On the west side of Buckinghamshire, adjoining Oxfordshire, is a range of hills of calcareous stone. In that part of the county which borders on Bedfordshire, about Wavenden, Broughton, and the Brickhills, the soil is a deep sand. The fertile vale of Aylesbury lies under the Chiltern Hills, occupying the middle of the county, and is formed of a rich black loam, on a calcareous subsoil. In the northern parts the soil is chiefly clay; but on the Bedfordshire border the surface rises into gentle sand-hills. The Chiltern district is said to have been once a forest; the western part, occupied by that of Bernwood, was disforested in the reign of James I. At present, the chief woodlands lie to the south of the Chiltern Hills. On a tract of land, extending across Little Kimble parish into that of Great Kimble, there are about 100 acres of box-wood, apparently the growth of the soil. The black cherry abounds in the neighbourhood of Chesham.

The prevailing timber in the southern part of the county is beech; one wood of which, in the parish of Wycombe, is said to contain 700 acres; nearly one-sixth part of the land between the road to Oxford and the Thames is supposed to be covered with this wood. Some antiquarians have derived its name from Buccan, A.S. beech. Whaddon Chase is the principal woodland in the northern part of the county, containing 2200 acres of coppices.

At Newport Pagnell is a good quarry of marble, at a considerable depth. At Wavenden are the celebrated fullers' earth pits, one of which only is now occasionally worked. Pennant thus describes the strata: 'The beds over the marl are, first, several layers of reddish sand to the thickness of six yards; then succeeds a stratum of sandstone, of the same color, beneath which, for seven or eight yards more, the sand is again continued to the fullers' earth, the upper part of which being impure, or mixed with sand, is flung aside; the rest taken up for use. The earth lies in layers, under which is a bed of rough white freestone, and under that sand, beyond which the laborers have never penetrated.' The only rare plant known to botanists as indigenous to this county, is the dentaria bulbifera, which grows abundantly in its south-east corner. The great snail, or pomatia, Mr. Pennant was informed, is found in the woods near Gothurst; and he regards this as its most southern residence in England.

This county has long been remarkable for its corn and cattle. 'Buckinghamshire bread and beef,' was an old proverb. As far back as the time of Camden, fine flocks of sheep were fed in the vale of Aylesbury, which yielded great profit from their wool; see **AYLESBURY**. At present this vale feeds oxen for the London market, to which it also sends weekly immense supplies of butter. There is a small proportion of arable land in the northern division of the county; and not much in any other part, except the Chiltern districts, which are usually cultivated with wheat, barley, oats, beans, and sainfoin. In the neighbourhood of Aylesbury, ducks are reared very early in the spring, and sometimes at Christmas, which, being sent to London, sell at a high price. The ducks are prevented from laying, by artificial means, till October or November. A few weeks before they lay, they are fed highly; the eggs are hatched by hens, which are frequently exhausted to death, by sitting on three broods successively. As soon as the ducklings break the shell, they are nursed with care at the fire side.

It has long been an old proverb in Bucks, 'more live by the lands than the hands;' the only manufactures of consequence here are those of bone-lace and paper. The former is carried on at Olney, Newport Pagnell, and Hanslope, a village about five miles north-west from Newport Pagnell. Here, in the year 1801, 800, out of a population of 1275, were employed in this manufacture. The lace sells from sixpence to two guineas a yard. But, since it has been made on the frame at Nottingham, Loughborough, and other places, this manufacture of Buckinghamshire has been on the decline. In the neighbourhood of Wycombe the manufacture of paper has been carried on for more than a century. On a part of the small river Wyke, which passes through this parish, there are fifteen corn and paper-mills. At Amersham there is a manufacture of sacking, and white cotton goods. Manufactures of paper and black silk lace are found at Marlow; large works of copper, brass, and brass-wire, and mills for making thimbles, and pressing rape and linseed. The principal markets in the county are those of Aylesbury, Buckingham, and Wycombe. Marlow fair is much celebrated for its horses.

Roman roads penetrate this county, and there are some remains of the military stations of that nation. A considerable mound, called Grimes-dike, which seems a common appellation for an ancient rampart, traverses part of it in a direction from east to west. The remains of a circular camp, with a double vallum and ditch, appear on the top of the hill at West Wycombe, and those of another at High Wycombe. A cross, on the side of a hill near the hamlet of Whiteleaf, is supposed to be intended to commemorate a battle fought by Edward the Elder against the Danes. In the churches at Chetwode, Chesham Bois, Hitcham, and Hillesden, are some of the earliest and most elegant specimens of stained glass in the kingdom; and the church of Stukeley is deserving of notice, as affording one of the most complete specimens of Saxon architecture now remaining. Happily no part of

it, externally or internally, has been much altered or defaced; nor have any additions been made to it, except the porch on the south side, and the pinnacles of the tower. The date of 1106 is said to have been observed on a stone by some workmen who were repairing the roof of the chancel. The chancel of the church of Chetwode, supposed to have been founded in the year 1244, has lancet-shaped windows, with slender pillars, the capitals of several of which are highly enriched with foliage and figures of animals. Hillesden church, which was rebuilt about the year 1493, affords a rich specimen of the later Gothic. Some of the most ancient and elegant specimens of stained glass in the kingdom, remain in the chancel of Chetwode church; as there is little doubt that this glass was coeval with the erection of the church, in 1244, it may be considered as one of the oldest specimens of the kind in England.

BUCKINGHAM, the county town, is sixteen miles and a half north from Aylesbury, and fifty-five from London, by Uxbridge; seated on the Ouse, over which it has three stone bridges. It is a very ancient town, and fortified with a rampart and turret, by Edward the Elder, in the year 918. Formerly it had a castle on a hill which divides the town, on the site of which a handsome new church, with a tower and spire 150 feet high, has been lately built; but the burying-ground is continued at the former church-yard. The inside of the church is fitted up in an elegant style; the altar-piece, representing the transfiguration of Christ, after Raphael, was presented to the parish by the marquis of Buckingham. The town consists of one long irregular street, the houses in which are meanly built, and some of them thatched. The manufacture, which is lace-making, and the trade of the town generally, is but small. In the reign of Edward III. one of the staples for wool was fixed here; and there still remains an old house called the wool-hall. On the banks of the river are several corn and paper-mills. It sends two members to parliament. Queen Mary incorporated it with a bailiff and twelve burgesses, who are the sole electors of its members. All the county business was formerly transacted at Aylesbury, but, by a late act of parliament, the summer assizes are held at Buckingham. Sessions also are held here twice a year, in the town-hall, and it has a court for the recovery of small debts. Here are a grammar-school, several places of worship for dissenters, and various excellent charitable institutions. The town has given the title of duke to several illustrious families. In the neighbourhood is Stowe, the celebrated seat of the marquis of Buckingham. This place suffered greatly by fire, in March, 1725, by which 138 families lost nearly £38,000. It is a great thoroughfare to Chester, Ireland, &c. The market on Saturday is well attended, and here are several fairs.

BUCKLE, *v. & n.* } *Goth. baug; Teut.*
BUCK'LING, } *anglicū; Swed. bukkel,*
BUCK'LER, v. & n. } *buckla; Welsh and Arm.*
bowl; Irish, bucla; Fr. boucle; from Goth. boga,
 to bow, or curve, whence *Fr. bogue*. Buckler is supposed to be cognate with buckle in the sense

of circular, as Goth. round was a shield; but Goth. *bog*, and Swed. *bog*, signified the shoulder; and *leder*, a skin, leather, was contracted into *ter*; bel leer. See Bow. To buckle is to bend, to yield to pressure; to fasten or close; to adhere to; to keep closely engaged in. A buckle is a fastening; a buckler is a shield or protection fastened with leather from the shoulder; to buckler, is to cover with a buckler; to guard or defend.

Richesse a girdle had upon;
The *bokill* of it was of ston,
Of virtue grete and mekil might
For who so bore the stone so bright,
Of venim durst him nothing doubt,
While he the stone had him about.

Chaucer's Romance of the Rose.

Knights of retenue, and eke 'squieres,
Nailing the speres, and helmes *bokeling*.

Id. Canterbury Tales.

The Saracen, this hearing, rose amain,
And catching up in haste his three-square shield,
And shining helmet, soon him *buckled* to the field.

Spenser.

Like saphire, pearl, in rich embroidery,
Buckled below fair knighthood's bending knee.

Shakspeare.

Fair lined slippers for the cold,
With *buckles* of the purest gold, *Id.*

The wretch, whose fever-weakened joints,
Like strengthless hinges, *buckle* under life,
Impatient of his fit, breaks like a fire
Out of his keeper's arms. *Id.*

Fear not, sweet wench, they shall not touch thee,
Kate;

I'll *buckle* thee against a million. *Id.*

Now a covetous old crafty knave,
At dead of night, shall raise his son, and cry
Turn out, you rogue, how like a beast you lie!
Go, *buckle* to the law. *Dryden.*

He took my arms, and while I forced my way
Through troops of foes, which did our passage stay;
My *buckler* o'er my aged father east,
Still fighting, still defending, as I past. *Id.*

Three seal-rings; which after, melted down,
Formed a vast *buckle* for his widow's gown. *Pope.*

The *chlamys* was a sort of short cloak tied with a
buckle, commonly to the right shoulder. *Arbuthnot.*

The greatest beau was dressed in a flaxen periwig;
the wearer of it goes in his own hair at home, and
lets his wig lie in *buckle* for a whole half year.

Spectator.

Thus ever, when I *buckle* on my helmet,
Thy fears afflict thee. *Philips.*

BUCKLE, in heraldry, is considered as a token
of the surety, faith, and service of the bearer:

it is an ancient and honorable bearing. It is necessary to describe the shape of the buckle, whether it be round, oval, square, &c. as, 'He beareth *sable* a chevron between three oval buckles *argent*, by the name of *Mallet*.'



BUCKLERS were composed of wickers woven together, or wood of the lightest sort, covered with hides, and fortified with plates of brass or other metal. The figure was sometimes round, sometimes oval, and sometimes almost square.

Most bucklers were adorned with figures of birds, beasts, gods, celestial bodies, &c.; a custom derived from the heroic times, and from them communicated to the Grecians, Romans, and barbarians. The scutum, or Roman buckler, was of wood, the parts being joined together with little plates of iron, and the whole covered with a bull's hide. An iron plate encompassed it without, to keep off blows; and another within, to prevent damage by lying on the ground. In the middle was an iron boss, umbo, jutting out, to glance off stones and darts; and sometimes to press violently upon the enemy, and drive all before them. The clypei were less, and quite round, belonging more properly to other nations, though for some time used by the Romans. The scuta were of two kinds; the ovata, of a plain oval figure; and the imbricata, oblong, and bending inward like half a cylinder. Polybius makes the scuta four feet long, and Plutarch calls them *ποδηνεις*, reaching down to the feet. And it is probable that they covered almost the whole body, for in Livy we find that soldiers on guard sometimes slept with their head on their shield, having fixed the other part of it in the earth. Bucklers were often hung up in their temples, either in commemoration of some hero, or as a thanksgiving for a victory obtained over an enemy; whose bucklers, taken in war, were offered as a trophy.

BUCKLER-THORN, *n. s.* Christ's thorn.

BUCK-MAST, *n. s.* The fruit or mast of the beech tree.

BUCK'RAM, *n. & adj.* Fr. *bourgrain*, Ital. *bugrane*, Dut. *bockerael*. A kind of cloth stiffened with gum; but formerly called trellis, from its lattice-like texture.

I have peppered two of them; two, I am sure, I have paid, two rogues in *buckram* suits. *Shakspeare.*

BUCKRAM is more generally, if not always, stiffened with glue, and used in the making of garments to keep them in the form intended. It is used in the bodies of women's gowns; to make wrappers to cover cloths, serges, and other merchandise, &c. to preserve them, and keep them from the dust. Buckrams are sold wholesale by the dozen of small pieces or remnants, each about four ells long, and broad according to the piece from which they are cut. Sometimes new pieces of linen cloth are used to make buckrams, but most commonly old sheets and old pieces of sails.

BUCK'RAMS, *n. s.* The same with wild garlick.

BUCKS, a populous and well-cultivated county of the United States, in Pennsylvania; bounded on the north-east, east, and south-east, by the Delaware; which separates it from Hunterdon County; on the south-west by Philadelphia and Montgomery Counties, and on the north-west by Northampton. Its greatest length is forty-one miles, and breadth twenty-one. On the south it is fertile, but the land on the north is rather poor: but it abounds in lime-stone. Lead and iron ores have also been discovered in it. Newton is the chief town.

BUCKS. See BUCKINGHAM.

BUCKSHORN PLANTAIN, in botany, Lat. *coronopus*, from the form of the leaf. A plant. See PLANTAGO.

BUCKS-HORN, WARTED. See COCHLEARIA.

BUCK-STALL, a toil to take deer, which must not be kept by any person who has not a park of his own, under penalties.

BUCKTHORN, *n. s.* in botany, Lat. *rhamnus*, supposed to be so called from the Saxon bucc, the belly. A tree that bears a purging berry. See RHAMNUS.

BUCK-THORN, SEA. See HIPPOPHAE.

BUCKWHEAT, *n. s.* in botany, Germ. *buckweitz*, Lat. *fagopyrum*. A plant. See POLYCONUM.

BUCOLICA, the art of managing cattle.

BU'COLICK *adj.* Βουκολικα, from βουκολος, a cowherd. Pastoral.

BUCOLICS, in ancient poetry, poems relating to shepherds and country affairs, which, according to the most generally received opinion, originated in Sicily. Bucolics, says Vossius, have some conformity with comedy. Like it, they are pictures and imitations of ordinary life; with this difference, that comedy represents the manners of the inhabitants of cities, and bucolics the occupations of country people. Sometimes, this last poem is in form of a monologue, and sometimes of a dialogue. Sometimes there is action in it, and sometimes only narration; and sometimes it is composed both of action and narration. The hexameter verse is the most proper for bucolics in the Greek and Latin tongues. Moschus, Bion, Theocritus, and Virgil, are the most renowned of the ancient bucolic poets.

BUCTION, in anatomy, a word used by Severinus and others for the hymen.

BUD, *v. & n.* Sax. *buta*, Teut. *butz*, Belbot, Wel. *bot*, Fr. *bouton*. Verb Belg. *botten*, Teut. *baussen*, Fr. *boutonner*. The first shoot of a plant; a germ. To put forth the germ of leaves; to put forth young shoots or germs. To rise as a germ from the stalk; to be in the bloom or growing. To inoculate; to graft, by inserting a bud into the rind of another tree.

Bud forth as a rose growing by the brook of the field. *Eccl.*

Seest not thilke same hawthorne studded,
How bragley it begins to *buddle*,
And utter his tender head.

Spenser's Shepherd's Calendar.

All so my lustfull leafe is dry and sear;
My timely *buds* with wayling all are wasted. *Id.*

Young *budding* virgin, fair and fresh and sweet,
Whither away, or where is thy abode? *Shakspeare.*

Be as thou wast wont to be,
See as thou wast wont to see:
Dian's *bud* o'er Cupid's flower
Hath such force and blessed power. *Id.*

Writers say, as the most forward *bud*
Is eaten by the canker ere it blow,
Even so by love the young and tender wit
Is turned to folly, blasting in the *bud*,
Losing his verdure even in the prime. *Id.*

Heaven gave him all at once, then snatch'd away,
Ere mortals all his beauties could survey;
Just like that flower that *buds*, and withers in a day.
Dryden.

Though laboring yokes on their own necks they feared,
And felt for *budding* horns on their smooth foreheads reared. *Id. Silenus.*

Of apricots, the largest is much improved by *budding* upon a peach stock. *Temple.*

Insects wound the tender *buds*, with a long hollow trunk, and deposit an egg in the hole, with a sharp corroding liquor that causeth a swelling in the leaf, and closeth the orifice. *Bentley.*

The hawthorn whitens, and the juicy groves
Put forth their *buds*, unfolding by degrees,
Till the whole leafy-forest stands displayed
In full luxuriance to the sighing gales. *Thomson.*

BUD. See BOTANY, Index.

BUDA, or OFTEN BUDA, a city of Hungary, in the county of Pillisch, is situated on the west bank of the Danube, and is the capital of Lower Hungary. Sometimes it is regarded, in conjunction with Pesth, from which it is separated only by a bridge of boats, as the metropolis of the kingdom. The length of this bridge, which consists of forty-seven large boats, connected with chains, is about 300 yards. Buda is the residence of the Palatine, and contains 30,000 inhabitants. Its situation is on the right bank of the Danube, and is commanding and majestic. The fortress, which occupies a high rock, contains the palaces of the palatine, and of the nobles, the public arsenal and theatre, with many churches and streets. At the foot of this eminence, and along the side of the river, runs a street, while others, with gardens, surround it in different directions: a second rocky eminence, called the Blocksberg, hangs over the river at a short distance to the south, on which a new observatory is constructed. The Danube is nowhere seen to more advantage; and the town has been considerably improved since a recent fire, which consumed the greater part of the lower division. Buda was the residence of the Hungarian monarchs, till the Turks took it in 1526, and destroyed a celebrated library, founded by Matthias I. Ferdinand, archduke of Austria, recovered it in 1527, but in 1529 the Turks took it again. In 1684 the Christians laid siege to it, but were obliged to raise it soon after, though they had an army of 80,000 men. In 1686, however, they took it by assault, in the sight of a very numerous army. The booty that they found it was almost incredible, the Turks having lodged their treasures in it as a place of safety. After this they augmented its fortifications, to which the pope contributed 100,000 crowns, Buda being considered as the key of Christendom. In the neighbourhood excellent wine is made, and the town itself contains numerous baths, which are resorted to in paralytic complaints. It is 125 miles E. S. E. of Vienna, and 150 N. N. W. of Belgrade.

BUDÆUS (William), a learned critic of France, in the fifteenth century, was born at Paris in 1467. His parents sent him to the university of Orleans to study law; where he passed three years in dissipation. His parents sending for him back to Paris, found his former reluctance to study and love of gaming much increased. But the fire of youth beginning to cool, he was at length seized with an irresistible passion for learning. He immediately disposed of his hunting

equipage, and abstracted himself from all business, to apply to study; in which he made, without any assistance, a very rapid and amazing progress, particularly in the Latin and Greek languages. The work which gained him greatest reputation was his *Treatise de Asse*. He afterwards became librarian to the French king, Francis I., who at his persuasion, and that of Du Bellay, founded the Royal College of France, for teaching the languages and sciences. The king sent him to Rome, as his ambassador to Leo X. and in 1552 made him master of requests. The same year he was chosen provost of the merchants. He died at Paris in 1540. His principal works are, 1. *De Asse*, 4to.; 2. *Notes on the Pandects*; 3. *Commentarii Græcæ Lingue*, fol.

BUDDÆUS (John Francis), a celebrated Lutheran divine, was born in 1667, at Anclam in Pomerania. At the age of eighteen he was sent to the university of Wittenberg, where he took his master's degree in 1687; and two years afterwards became assistant professor of philosophy. He removed from thence to Jena, next to Copenhagen, and afterwards to Halle, but returned to Jena to take the chair of theology in 1705. He died in 1729. His principal works are, 1. *A large Historical German Dictionary*; 2. *Historia Ecclesiastica Veteris Testamenti*, 2 vols. 4to.; 3. *Elementa Philosophiæ Practicæ, Instrumentalis, et Theoreticæ*, 3 vols. 8vo. In most universities of Germany the professors take this work for their text book. 4. *Selecta Juris Naturæ et Gentium*. 5. *Miscellanea Sacra*, 3 vols. 4to. 6. *Isagoge Historico-Theologica ad Theologian Universans, Singulasque ejus Partes*, 2 vols. 4to. 7. *A Treatise on Atheism and Superstition*.

BUDDLE, in mineralogy, a large square frame of boards used in washing the tin-ore.

BUDDLEIA, in botany, a genus of the monogynia order, in the tetandria class of plants. The calyx and corolla are quadrid; the stamina placed at the incisions of the corolla. The capsule is bisulcated, bilocular, and polyspermous. There are eleven species, mostly from the Cape and the East and West Indies. The most beautiful are, *B. Americana*, a native of Jamaica and most of the other American islands. It rises to the height of ten or twelve feet, with a thick woody stem covered with gray bark; and sends out many branches towards the top, which come out: opposite, at the ends of the branches, the flowers are produced in long close spikes branching out in clusters, which are yellow, consisting of one leaf cut into four segments: these are succeeded by oblong capsules filled with small seeds. *B. occidentalis*, a native of Carthage. It rises much higher than the other.

BUDDLING-DISH, a small, shallow vessel, like the basin of a pair of scales, for washing ores of metals by the hand.

BUDDLING OF CALAMINE, the operation of cleansing it from filth, by washing and picking it, preparatory to the baking of it in the oven.

BUDGE', *v., n. s., & adj.* } Goth. *buga*, Sax.

BUD'GER. } *bugan*, Swedish
botja, Dan. *boge*, Fr. *bouger*. From Goth. *bolg*, Sax. *baig*, *bolg*, Wel. *balch*, puffed up, angry, arrogant. Thus to budge is to stir, to move off slowly and doggedly; surly, stiff, formal.

The mouse ne'er shunned the cat, as they did budge
From rascals worse than they. *Shakspeare.*

Let the first budger die the other's slave,
And the gods doom him after. *Id.*

I thought th' hadst scorned to budge
For fear. *Hudibras.*

O foolishness of men! that lend their ears
To those budge doctors of the stoick fur. *Milton.*

BUDGE BACHELORS, a company clothed in long gowns, who attend the lord mayor of London during his inauguration.

BUDGE BARRELS, among engineers, small barrels well hooped, with only one head; on the other end is nailed a piece of leather, to draw together upon strings like a purse. Their use is for carrying powder along with a gun or mortar; being less dangerous and easier carried than whole barrels. They are likewise used upon a battery of mortars for holding meal powder.

BUDGELL (Eustace), Esq. the son of Gilbert Budgell, D. D. was born near Exeter about 1685. He was educated at Christ Church College, Oxford; from which he removed to the Inner Temple, London: but instead of studying the law, for which his father intended him, he applied to literature, and contracted an intimacy with Mr. Addison, who was first cousin to his mother, and who, on being made secretary to the lord-lieutenant of Ireland, took him with him as one of the clerks of his office. Mr. Budgell, who was then about twenty years of age, and had read the classics, and the works of the best English, French, and Italian authors, now became connected with Sir Richard Steele and Addison in the production of the *Tatler*, as he had, soon after, in that of the *Spectator*, in which all papers written by him are marked X. He was likewise a contributor to the *Guardian*, where his performances are marked with an asterisk. He was afterwards made under-secretary to Mr. Addison, chief secretary to the lord justice of Ireland, and deputy-clerk of the council. Soon after, he was chosen a member of the Irish parliament; and in 1717, Addison having become principal secretary of state in England, procured him the place of accountant and comptroller general of the Irish revenue. But next year, the duke of Bolton being appointed lord-lieutenant, Mr. Budgell lampooned both the duke and his secretary, and was in consequence removed from his post: upon which, returning to England, he published his case in a pamphlet, entitled *A Letter to the Lord * * **, from Eustace Budgell, Esq. accountant-general, &c. His attempts to gain the favor of the English court were constantly repressed by the duke of Bolton. In 1720 he lost £20,000 by the South Sea scheme, and afterwards spent £5000 more in unsuccessful attempts to get into parliament. This completed his ruin. He at length employed himself in writing pamphlets against the ministry, several papers in the *Craftsman*, &c. In 1733 he began a weekly pamphlet, called *The Bee*; which he continued for above 100 numbers, or eight volumes, 8vo. During its progress Dr. Tindal died, and a will of Budgell's making, contained a bequest of £2000 to the maker; but it was contested and ultimately set aside. This ruined his reputation. It was thought also that he assisted

Tindal in the composition of Christianity as old as the Creation. He now produced a translation of Theophrastus's characters. Becoming again embarrassed, after the cessation of the Bee, and having been called to the bar, he attended for some time in the courts of law, but finding himself unable to obtain practice, he resolved on suicide. Accordingly in 1736, after filling his pockets with stones, he took a boat at Somerset-stairs, and threw himself into the river under the bridge. Upon his bureau was found a slip of paper, on which were these words :—

What Cato did, and Addison approved,
Cannot be wrong.

BUDGET. Fr. *bougette*, Dan. *buget*, from Goth. *balg*, Teut. *balg*, barb. Lat. *bulga*, Ital. *bolgia*, *volgia*, *bolgetta*. A wallet, a sack. It is used for a store or stock.

If tinkers may have leave to live,

And bear the sowskin *budget*;

Then my account I well may give,

And in the stocks avouch it. *Shakspeare.*

Sir Robert Clifford, in whose bosom, or *budget*, most of Perkin's secrets were laid up, was come into England. *Bacon.*

It was nature in fine, that brought off the cat, when the fox's whole *budget* of inventions failed him. *L'Estrange.*

Nor did I ever winch or grudge it,
For thy dear sake! Quoth she, mum *budget*.
Think'st thou 'twill not be laid i' the dish
Thou turn'st thy back? Quoth Echo, Pish.

Hudibras.

His *budget* with corruptions crammed,

The contributions of the damned. *Swift.*

BUDGET, in parliamentary language, means the minister's proposed plan of taxation for the subsequent year; and comprehends not only the new taxes and an estimate of their probable amount, but a general view of the national debt, income and expenditure, ways and means of raising supplies, &c. with the real product of the last *budget*.

BUDHURS, in ichthyology, a name given by the Irish to a large species of trout, resembling the red gillaroo.

BUDINGEN, a town of Germany in the grand duchy of Hesse, the capital of the county of Upper Isenburg, ten miles north-east of Frankfurt.

BUDINUS, in ancient geography, a mountain of Sarmatia Europæa, from which the northern spring of the Borysthenes is said to take its rise, according to Ptolemy. But this is contradicted by later accounts. It is now called Podolia.

BUDLEY, a sea-bathing town of Devonshire, near the mouth of the Otter. It had once a market on Monday, and is now recovering its former respectability; distant three miles from Exmouth.

BUDNEANS, in ecclesiastical history, a sect of the sixteenth century, who not only denied all kind of religious worship to Jesus Christ, but asserted that he was begotten like other men, and in the natural way.

BUDNEUS (Simon), the founder of the above-mentioned sect, was a clergyman, deposed from his ministerial functions in the year 1584, and publicly excommunicated, with all his disciples, but afterwards, abandoning some of his

peculiar sentiments, he was admitted to the communion of the Socinians.

BUDOA, a small maritime town of the Austrian empire in Dalmatia. It is seated between the gulf of Cattaro, and the city of Dulcigno, on the coast of Albania; and was once an important fortress, where the Venetians kept a strong garrison. In 1665 it suffered greatly by an earthquake; and in 1686 was besieged by Soliman, basha of Scutari: but Cornaro obliged him to raise the siege.

BUDUN, one of the Ceylonese gods, who is fabled to have arrived at supremacy, after successive transmigrations from the lowest state of an insect, through the various species of living animals. There are three deities of this name, each of whom is said to reign till a bird shall have removed a hill of sand, half a mile high and six miles round, by carrying off a single grain once in 1000 years. See *Ceylon*.

BUDUKSHAUN, a range of mountains in Asia, extending northwards from the great ridge of Hindoo Coosh to the source of the Oxus. It thus forms the western boundary of the territory of Kaushkaur; and is covered with snow during the greater part of the year; but there is only one point of perpetual snow, being that from which the Oxus and Kama take their rise. The neighbourhood is watered also by a considerable river, called the Koocha, which falls into the Oxus. These mountains contain valuable mines of silver, iron, antimony, and lapis lazuli. Budukshaun has also been celebrated for its rubies, situated on the lower hills, near the Oxus; but they are no longer wrought. From its inaccessible situation, this country has generally maintained its independence. The present chief, Sultaun Mahommed, is said to be absolute over his own subjects, and has a revenue of about £60,000. The capital is Fyzabad, a considerable place.

BUDWEIS, a circle and mining town of Bohemia, containing nine towns, twenty-six market boroughs, twenty-seven lordships, 860 villages, and 170,000 inhabitants. Here are the sources of the Moldau, and very extensive forests and sheep-walks. The town is large and well built, surrounded with walls, and partially fortified. It was taken by the king of Prussia in 1744, but he did not keep it long. Here are manufactures of salt-petre and cloth. Population 4600. Distant sixty-six miles south of Prague.

BUDZIAC TARTARY. See *BESSARABIA*.

BUENAVENTURA, a Spanish settlement and mission on the coast of New California, visited by Vancouver in 1793. He says that the buildings of the mission, the arrangement of the gardens, and the cultivation of the land in the immediate vicinity, is in a style superior to that of any of the settlements to the north. It was founded in 1788, and contains about 1000 inhabitants. Long. 241° 2' E., lat. 34° 16' N.

BUENOS AYRES, an independent state of South America, and one of the United Provinces of the southern hemisphere, was, until the late revolution, a vice-royalty of the dominions of Spain, and sometimes called the vice-royalty of La Plata. At that period it was described as extending from the Rio Desaguadero to the most

northern settlements on the Paraguay, upwards of 1600 miles in length; and, from the mouth of the Rio de la Plata to Chili, nearly 1000 in breadth; forming the most important part of the Spanish possessions in the New World. It was erected into a distinct vice-royalty so late as the year 1778, and consisted of five provinces, viz. Buenos Ayres, or Rio de la Plata, Paraguay, Tucuman, Los Charcas, or Potosi, and Cuyo. We can feel no such apprehensions for the cause of liberty, as to imagine that these provinces will ever again fall under the dominion of the mother country (if, indeed, it be not a sort of profanation to apply such a term to Spain); but having sketched (see our article SOUTH AMERICA) the general features of this important portion of the new continent, and the union of these provinces being, at present, far from settled, we devote this article to a description of Buenos Ayres Proper, always the chief of them, and the channel through which their principal productions have reached Europe.

The province or state of Buenos Ayres, then, is now bounded on the east by the river Paraná, and its continuance the La Plata; on the north by the stream Arroyo de en Medio, which divides it from Santa Fé; and on the south and west by the Solado, which empties itself into the bay of Somborombon. The extravagant claims of the Spanish government included the territory southward, nearly to 47° of latitude, and attempts have been lately made to extend the actual boundaries farther in that direction. In fact, at different periods, the grazing grounds of the province have stretched as far as 37° south latitude; but it seems more than doubtful whether the Indians, who have become alarmed at this advance, and who frequently penetrate to the neighbourhood of the capital, will sanction it by any treaty. In the year 1740, a line was run across the continent, in latitude 35°, to the southward of which it was understood the various hordes of Indians were to confine themselves. On the sea-coast the Europeans have had much less difficulty in extending the limits of their possessions, than more in the centre of the country. It is calculated that this territory contains about 1520 square leagues.

The mighty La Plata, formed of the united streams of the Pilcomayo, Paraguay, Parana, and Uruguay, is the chief geographical feature of this province, and the great outlet, or central basin, of this part of South America. The waters of the western side of the mountains of Brasil, and those of the eastern side of the Andes, as well as those of the intermediate ranges of Cordova and Tucuman, have no estuary but in this direction.

The geological formations on each side of this great stream are interesting, as it appears to separate the primitive from the newest secondary formations in a remarkable manner. On the north, or Montevideo side, the rocks are granite, gneiss, claystone, and primitive trap (greenstone); while on the south side, a new stalactiform limestone, of a brownish white color, is found lying upon beds of a stiff clay. These clay beds extend a considerable distance into Patagonia; and little farther is known of the

geology of that country. Round Buenos Ayres the upper soil is chiefly of a light nature, approaching to marl, covering a stiff clay subsoil, which the natives call *fosca*.

Immense advantages in the way of trade are already connected with, and still more are promised by, this stream. In fifteen days vessels can proceed up the Parana and Paraguay as far as Asumpcion, where the river is a mile and a half in breadth. The back voyage nearly occupies as much time, as, for several degrees of latitude, the fall in the river does not exceed one foot in a thousand. The course of the river Uruguay is also very extended, but, on account of numerous falls, it would not afford the same facilities to navigation as the Paraguay. A branch of it, the Rio Negro, may be navigated about forty miles from its junction.

The Tercero, which runs into the Parana under the name of the Carcaranal, might be rendered navigable at a moderate expense, and would furnish an outlet from Cordova, San Jago, and the provinces of Mendoza and San Juan. It rises in the mountains to the west of Cordova, and pursues an easterly course, leaving that city about thirty leagues to the north. It was surveyed as far back as the year 1811, with a view to this object, and the report was favorable. It is remarkable, that not one of the many streams which descend from the Cordillera, west of Buenos Ayres, reaches the sea. They spread over so large a surface of flat country, that they either become evaporated by heat, or form lakes of small dimensions. In the Pampas, the want of water is often severely felt. This flatness of the country also precludes the probability of springs; the wells of Buenos Ayres are obliged to be dug of great depth, and perforate the clay bed.

The climate is remarkably fine and healthy. During the summer months, the general range of the thermometer is from 75° to 84° of Fah. On the 21st of February, 1821, the mercury stood for many hours at 91° in the shade. The mean temperature of the three summer months of 1822, was 71° 9'. In winter the thermometer varies from 55° to 60°. Blasts from the Cordilleras will sometimes sweep over the country, and cause the mercury to fall in an extraordinary way. These blasts will strike the arm, or any other exposed part of the body, and produce a numbness, which sometimes remains for several days. Heavy rains fall in July, August, and September. The rains during the summer are extremely irregular, they have the character of thunder-showers; hail-storms at this period of the year are common. These storms are frequently attended with the most fatal consequences. In one of them, which happened in the year 1793, the lightning struck the town of Buenos Ayres in thirty-seven different places, and killed nineteen persons.

The most common disease in the capital and its neighbourhood is consumption (arising it is supposed from the chilling gusts already named), bowel complaint, and gout; but the latter is not very frequent. In the country, disease, even in the swampy districts, is hardly known. The small pox has appeared in the four provinces, but vaccination has almost exterminated it. The

white inhabitants generally reach a good old age, more particularly the females, who seem to possess strong constitutions in very advanced years.

The Pampas are covered with immense efflorescences of salt, and formerly a considerable party of salt-collectors used to leave the capital about the month of September, with much ceremony, to obtain that article after the waters had subsided and deposited it on the surface. It was very impure, and even found unfit for the preservation of jerked beef, making it hard and of bad flavor. A small traffic in bags of salt is still carried on with the Indians, but this is said to be collected from the lakes, being regularly crystallised in cubes. The domestic consumption of salt is very limited.

The former vice-royalty of Buenos Ayres was rich in the silver mines of Potosi, La Paz, and others long celebrated in Europe. Previous to the separation of the provinces, the mine of Famatina in the valley of the same name, to the north of San Juan, was also within the jurisdiction of Buenos Ayres. It was singularly rich: the silver being, according to the Spanish phrase, *chiselled* out of the gangue, which was a carbonate of lime. And, in 1814, some English merchants entertained an idea of renting it; but upon mature reflection, considering the country in too unsettled a state, they prudently relinquished their plan. The province, at present, is singularly deficient in mineral productions.

It is also almost entirely destitute of timber. One of the few indigenous trees is the umbú, but this is only found in the neighbourhood of the capital; while some species of cactus, the cardon or thistle with blue flowers, and a few more, constitute the native vegetable productions. The Spaniards introduced the olive and the hard peach with some success; they grow quickly, particularly where a little shelter is afforded by the taller trees from the bleak winds that sweep the surface of the country; the cherry tree is also common, but has never been known to produce any fruit, the blossoms being cut off by the wind. The sauce, or willow, is met with on the banks of the Canada. Grasses thrive; and the apple and melon are abundant, but not fine. Most of the vegetables of Europe have been cultivated with success, but their use is confined to Europeans; for the Gauchos, or people of color, view them with eyes of ridicule, and consider a man who would eat them as little superior to the beasts. Gourds are the only edible plants with them. The government has lately turned its attention to the formation of public forest-plantations, which furnish young plants to cultivators at a moderate price; in a few years it is expected they will become a source of considerable wealth to the state. The islands in the Parana abound in indigenous vegetation: and with the trefoil and cardon of the immense plains of Buenos Ayres, its stormy breezes evidently agree.

The species of quadrupeds are not numerous, nor peculiar: the quantity of cattle it is well known is immense, though since the revolution it has been much diminished. Horses also are bred by thousands. In the neighbourhood of the capital, a curious little animal is also found in great numbers, the biscachia, *lepus discus*. It

is not unlike our rabbit in shape and size, it burrows and surrounds its hole with abundance of bones: an owl is said generally to be hovering near. The armadillo is common in the Pampas, a small species of unpleasant smelling deer, and the ounce.

The nandu, (South American ostrich) and swan, are also found in considerable numbers. The former is about half the size of the African species, it runs very fast, and is taken by the Gauchos with balls of stone attached to a leather thong, which they generally throw round its neck. Several females, it is said, lay their eggs in one nest, and the male hatches them. The swan is a most majestic and beautifully shaped bird; the body is perfectly white, and the head and part of the neck black. A considerable trade is carried on in its plumage and skin. It is taken by being followed into the water and entangled by a leather thong, in the same manner as the ostrich. There are two kinds of partridges here; the one small, and similar to the quail of Europe, and the other considerably larger. They are taken in various ways. The more usual method is that of galloping round the covey, continually fixing the eyes on them, and, by closing the circle, they at last allow themselves to be taken up by a noose at the end of a stick. It is said that they subsist on animal food. On the banks of the rivers great variety of water-fowl subsist on the fish. In the city the mosquito is common, but not so troublesome as in some other parts of South America. Fleas abound; and seem, as Dobrizhoffer says, to live in the grass, for on lying down in some places, the body becomes covered with them. Reptiles are not common.

Bones of the *Megatherium* have been found here, and an almost entire skeleton was sent home by the viceroy in 1789. It was found on the shores of the Lugan, about fifteen leagues from Buenos Ayres. In the same direction, a soldier found a tooth within the last few years.

The larger farms are chiefly occupied with cattle and horses: of the latter 6000 head have been sometimes owned by one breeder, besides a due proportion of horned cattle. The grazing grounds are many miles in circumference, and the cattle in excellent condition. Horses cannot now be said to be found absolutely wild; but, prior to the revolution, public officers went annually round the country and seized all unmarked cattle for the king: it has therefore been the custom to mark them early, and for a purchaser to countermark them, or they may be at any time reclaimed. Such is the abundance of these animals that the greater part are reared only for their hides. In Buenos Ayres, a superior horse will sometimes sell for eighteen or twenty dollars; but if purchased in the country, at a distance from a market, not above four or five. In 1821 the government paid, for the army, at the rate of three dollars per horse. Mules are little attended to in this province, though in the neighbourhood, at Cordova and Mendoza, they are a chief object of commerce. The horned cattle are so numerous, and meat so cheap, that a whole ox may be purchased for three or four dollars at any time; the hide alone being worth three and

a-half. So abundant is flesh meat, that the domestic poultry are said to be fed with it. But the late civil troubles have affected no feature of the country more than this. Their numbers, according to Mr. Caldecleugh are diminished since the revolution full one-half. M. Rivadavia, one of the ablest ministers of this republican government, observing this, has recently caused a decree to pass the house of representatives, prohibiting any cows to be slaughtered, excepting in those districts which approached the Indian frontier, and where, in case of sudden irruption, it would be found impossible to drive them off. 'Should the country,' says our traveller, 'remain quiet for any length of time, and recover from the effects of devastation committed by the various chiefs and by the Indians, there can be no doubt, with such rich pasture, the number of cattle will reach its former extraordinary limits.'

Wheat, which was formerly obliged to be imported, now flourishes here best of any grain; but a good deal of barley is grown. The former is exported in considerable quantities up the Paraná and to Brasil. It has a small bearded grain, and is full of flour. There are two crops annually, in September and February. A temporary enclosure being made, the earth is raised with a rude plough, or the bone of an ox, and thinly sprinkled with seed. Threshing is performed by placing the wheat in an enclosure, and forcing a number of horses to gallop over it. Indian corn is cultivated in two varieties, the one with the grain perfectly white and tender; the other of a deep yellow, and much harder. The system of agriculture is on the whole wretched, and in nothing may the advantages of peace and closer intercourse with enlightened nations be expected to make a more rapid improvement. Insects and heavy rains often destroy immense crops.

The poncho, an oblong piece of cloth, with a hole in the middle, for the head, is the common dress of the lower classes, and a principal article of manufacture throughout the province. To this if we add a few Indian articles, made from hides and ostrich feathers, some coarse woollen cloths, and cotton goods, we shall have enumerated the only manufactures worth naming. But the poncho is a superior article in point of texture. The chief articles of export are hides, tallow, horns, hair, jerked beef, wool, Vicuna wool (for hat making), Chinchilli and Neutre skins. 957,600 horse and cow hides, arrived in England alone in the year 1822. Until 1816 the chief article of internal trade, was the Paraguay yerba, or tea, of which in 1814, 20,000 bales, worth at least a million sterling, came down the river. It is as universally drunk here as tea in England; but of late the dictator of Paraguay has prohibited its leaving that country. The method of preparing it is to put a small quantity of the leaves into a gourd, or cup, in which is placed a reed, or silver tube, called bombilla; hot water is then poured on it, and the infusion is sucked through the tube. Sugar is generally mixed with it, and it possesses excellent stomachic qualities. On leaving the country, travellers miss it exceedingly. An inferior kind called the palo, or Portuguese yerba is also used. Little attention has

as yet been paid to the state of the roads, which extend but a short distance in any regular way into the interior. They are traversed either by single mules or waggons; the wheels of which, in order to pass through the pantanos, or sloughs, are of immense dimensions. They travel together in numbers, with one for a conductor, and his family, and traverse the plains to the shores of the Pacific.

The commerce of this country has fluctuated a good deal since the revolution. In the year ending the fifth of January, 1817, the English merchants shipped to Buenos Ayres, goods to the value of £388,487; while in the year ending January the 5th, 1823, their value was £1,164,745, showing an unprecedented increase. During the year 1822, 167 English vessels sailed from various ports for Buenos Ayres, carrying thither every description of manufactured goods, beer, &c. In 1814 there were 20,000 tons of shipping employed by Buenos Ayres; but such was the distressed state of the country during the years 1819 and 1820, that the amount sunk again as low as 8,000 tons. From that period the increase has been steady. It should be observed that our commerce with Buenos Ayres far exceeds that of any other nation.

The following exhibits a picture of the trade of the port of Buenos Ayres at a very recent period:—

I. An Account of Vessels which have arrived in the Port of Buenos Ayres.

1823.	Number.	Nations.	Tons.
January.	9	Belonging to the Province	424
	10	English	1574
	5	North-Americans	984
	4	Brasilians	463
	2	French	343
	2	Dutch	350
	1	Dane	204
	1	Swede	254
	—		
	34 ships.		4596
February.	9	Belonging to the Province	446
	13	English	2669
	13	North Americans	2605
	12	Brasilians	1100
	2	Swedes	550
	3	French	424
	3	Sardinian	352
	1	Dane	208
	—		
	56 ships.		8354
March.	11	Belonging to the Province	571
	6	English	1102
	5	North Americans	1286
	15	Brasilians	1150
	2	French	448
	1	Sardinian	156
	1	Dutch	102
	1	Dane	60
	—		
	42 ships.		3875
Total 132 vessels.			17,925

II. *An Account of Vessels which have cleared outwards.*

1823.	Number.	Nation.	Tons.
January.	7	Belonging to the Province	424
	21	English	3764
	9	North Americans	2003
	7	Brasilians	554
	3	French	771
	47	vessels.	7516
February.	3	Belonging to the Province	114
	6	English	1027
	2	North Americans	380
	4	French	709
	4	Brasilians	369
	1	Swede	284
	20	vessels.	2883
March.	10	Belonging to the Province	676
	5	English	835
	5	North Americans	840
	9	Brasilians	810
	1	Dane	204
	1	Dutch	150
	31	vessels.	3515
Total 98 vessels.			13,014

The government is republican and representative. It may be said, after many changes, to have taken its present form in August, 1821. At this period the chamber of representatives was declared extraordinary and constituent, and made the following regulations:—It was decreed that the number of representatives for the city and the country should be doubled, and that one should be added for Patagonia, thus making the number forty-seven. Secondly, That at the commencement of each session, half of the members should go out, and fresh elections take place. Thirdly, That no members should receive pay from government. And lastly, That a president and vice-president should be chosen in turn annually. At first the distinction of deputy was not an honor much sought for: it was an elevation to what appeared a dangerous height, and from which men might be precipitated, they knew not how soon: such little confidence could then be put in the stability of the government. At the last election this feeling had considerably worn away, and the electors and candidates seemed aware of that distinction which, in all countries, where a proper feeling exists, is viewed with eager eyes. The sessions of the chamber commence about May or June, and last until December, when it is prorogued on account of the summer heats. The style of the chief executive officer of the state now is, Governor and Captain General of the Province of Buenos Ayres.

All the comforts of the common people here are concentrated in their abundant animal food, and their yerba matté: drink has very little of their attention. The poncho before mentioned covers the shoulders, and the skin of the hind leg of a horse produces for the man an elegant natural

boot: the addition of immense spurs, and a large knife at the girdle, completes his dress. On particular occasions his drawers are ornamented about the knees. The better classes adopt the Spanish cloak; and the ladies the French or English costume. The bull fights, once so frequent, have been discouraged by the new authorities; a license must be procured for every exhibition, and the animal, for we know not what reason, be deprived previously of his horns.

Horses are the great delight and common possession of all classes. On the trappings of his steed the Buenos Ayrean spends what the beaux of other countries bestow on their own dress. He is ever on horseback, and could not think of crossing a street on foot: in the river the nets are drawn from the saddle; the common bather plunges from his horse, and swims round it; and the beggar at the corner of the street stoops mounted from his horse, and asks your charity!

The greatest general defect of character here is indolence, which pervades all ranks. To sit in a pulperia, or spirit shop, and play at some game which requires no personal exertion—to drink as fortune becomes unfavorable—and, in a fit of passion, to stab the more fortunate—is no uncommon way of spending the day among the lowest of the inhabitants. Crosses about the doors of these places, and in various other situations, attest the fatal quarrels which have thus taken place. The poncho at the moment of irritation is wrapped round the left arm, and the knife flourishes in the right. No people are more dexterous with this weapon, and though fortunately few of these disputes, in comparison with their number, end fatally, when they mean to kill they almost uniformly pierce the heart. To the credit of the new legislators, knives, swords, and other weapons of the kind (*armas blancas*), are of late forbidden to be carried about the person; and heavy licences are imposed to decrease the number of pulperias.

'Deliberate murder, however,' says Mr. Caldeleugh, 'rarely occurs. The disposition of the people is decidedly good, and their honesty has never been called in question. Industry is all that is wanting. The man attends to the horse, and will take charge of nothing else. The wife is the slave, and has to exercise her reflecting faculties as well as her hands for the husband. The cow is placed under her care; she milks what is required for the family and no more, butter and cheese she is little acquainted with. On entering their huts the woman puts the stool or the head of an ox for a seat, but the husband never rises: he is pleased with the visit of the stranger, but would cease to enjoy it if it cost him the least bodily exertion. The visitor may proceed to the hearth and use the small copper vessel in which the water is boiled for the mattés; he may even take the meat off the wooden spit—but he must do all this himself; to ask the gaucho for any exertion would be to run the risk of displeasure, and he would after all only call to his wife, without turning his head. Nothing excites their surprise more than to see a foreigner bustling about his own baggage, and looking after every thing

himself. Pity seems the prevailing feeling. This is the character of the gaucho round Buenos Ayres, which few foreigners had a better opportunity of witnessing than myself, considering the shortness of my residence in the country. Most of their faults must be deduced from their mode of life. They are probably in the employ of men who own large estancias, or grazing farms, who allow them their subsistence, and little more, and whose service they leave, and move to another part of the country without difficulty or even notice. They consequently acquire wandering and frequently predatory habits; and it is not easy in the pampas to exercise the law with vigor. The various commotions in the country have tended much to give the lower classes a distaste to a regular life and industrious habits. Still the demoralisation is not nearly to that extent which all these causes might have produced; and upon the whole I cannot help thinking favorably of the Buenos Ayrean. He is free from deceit—would be most obliging were it not for his indolence—and most amiable if he had the slightest command over his passions.

In 1821 the attention of the new government was first directed to its present plan of finance, principally by a Mr. Wylde, an Englishman, who drew up several papers and projects for the re-modelling of the custom-house. After this the new tariff made its appearance. It is dated 21st August, and enjoins, that quicksilver, machines of every description, agricultural implements, scientific instruments, prints, statues, wool, skins, watches, trinkets, woods and articles for manufactures, shall pay five per cent. of custom-house duties: that arms, powder, silk rough and manufactured, shall pay ten per cent.: all other articles not included in the above, fifteen per cent.; excepting sugar (Chinese), coffee, cocoa, and yerba matté, which are to pay twenty per cent.; and carriages, furniture, saddles, wines and liquors of all sorts, which are to pay twenty-five per cent. The export duties are as follow: one real on each ox hide, half a real on horse or mule hides, one per cent. on gold in coin, two per cent. if worked; three per cent. on silver in coin, and four per cent. if worked or in pina; productions of the country four per cent.; grain and flour if exported in national vessels, and all manufactures of the country, and hair, free from duty; yerba matté imported by land to pay ten per cent. The new tariff at once and decidedly improved the revenue. Previous to this the taxes levied were as numerous and oppressive as the mode of gathering them was irregular and capricious. The alcabala, a duty of three, four, or five per cent. on all sale and resale, was one that created most discontent, and which has been abolished by all the new governments, except that of Paraguay. But the tonnage dues, sales of papal bulls, tithes, and the royal fifths on gold and silver, were all severely felt.

In 1812 the tithes were abolished, and the existing regulations for the church published; the dignitaries of which are composed of a dean, with a salary of 2000 dollars, and four presbyters, with 1600 dollars of salary. The cloistered clergy have been diminished by law, and no one is permitted to take the vows until he is twenty-

five years of age; even then an express license from government was required. The pope, we are sorry to add, being solicited in 1815, finally to arrange the ecclesiastical affairs of the province, declined the task. The attendance on the forms of religion is considerable, but rather on the decrease: heretics are by no means underrated in return for the lessons of civil liberty which they have taught here; and a great and uniform spirit of toleration is abroad.

The inhabitants of this province, who do not exceed 170,000, are divided into the Old Spaniards and European residents, the Creole and mixed races, the native tribes and slaves. A census, taken in 1821, was, for some reason not ascertained, never published. The population has certainly decreased of late years, and this may have furnished one motive for suppressing the authorised account. The Pampa Indians are said to be on the increase: they are a very bold and acute race. Of late their hostile attacks on Buenos Ayres have been frequent; and, in 1822, they came so often close up to the city, that the governor sallied forth and drove them back: such, however, is the nature of the country, that a few hours place an enemy that has fled, close on the heels of a retiring conqueror. The eyesight of these tribes is described as being peculiarly strong. On the borders of their territories, they are said to have a platform elevated about twenty feet, on which a lad constantly stands and examines the horizon with his eye; and by this means, time is given them either to escape or, prepare the means of defence. A line of forts has been lately drawn to the south-east of Buenos Ayres, from a spot called Tandil, to the Sierra de Ventana, to suppress these incursions.

Formerly, when the native tribes were supposed to be diminishing in their numbers, an importation of negroes was commenced by the English, French, and Dutch, who had settlements on the coast of Africa. The number imported was never great, being but just sufficient to supply the city. Buenos Ayres and the neighbouring states are now enjoying the advantages of this; and by it alone have a decided superiority over the Brasilians. During the first years of the revolution, when a great deficiency of men for the armies was felt, the state purchased several thousands of negroes from their owners: these purchases were continued until 1822, when it was determined that no more public money should be thus spent. And it was nobly decreed at the meeting of the National Congress, in January, 1813, that all children of slaves born after that day should be free. The feelings of the people, we are happy to add, are averse from any recommencement of the vile traffic in slaves.

BUENOS AYRES, the capital of the foregoing province, stands in south latitude $34^{\circ} 36' 28''$, about 200 miles from the mouth of the La Plata, and where it is about thirty miles wide. It was founded in the year 1535. Its general appearance is neat, though not imposing. It is very regularly built, on a bank considerably elevated above the level of the water, as you approach it from the sea, and occupies a large space of ground. The steeples of the various churches

and convents, as they rise successively to view, add much to its appearance. The fort occupies the centre of the side next the river, commanding on one side the landing, and the parade or great square, on the other. The port is subject to much inconvenience from the difficult navigation of the La Plata, and the want of a commodious harbour near the town. No vessels of large burden can approach nearer than the bay of Barragan, which is seven leagues distant. But, while the northern states send down here their tobacco and cotton, and San Juan and Mendoza their wines and brandies, which, together, form an important trade with Great Britain, although the Paraguay yerba should still be withheld, and dissension suspend the intercourse with the rich mineral district of Peru, Buenos Ayres will ever take the lead among her neighbours as a commercial port of deposit.

The public buildings are few, and scarcely worth distinguishing. The unfinished cathedral, the Dominican church, the Franciscan, and that of St. Nicholas, together with the new theatre and the state-house, are the most remarkable. The streets are wide, paved at the side, and tolerably clean. The houses are covered with a flat roof, called *azotea*, and have no upper stories; but almost all of them have gardens, and are surrounded with balconies of lattice-work, containing shrubs and flowers. All the older ones are of mud, but, at a comparatively modern date, brick and lime were brought into use here by the Jesuits. In the centre of most houses is a court, containing a tank for water, that from the river being considered prejudicial to health. Game, fish, and all other provisions, are plentiful in the market; but fowls are exceedingly scarce and dear. The population is taken at about 50,000.

Household furniture here is rarely handsome, or even what an Englishman would call comfortable; but the inhabitants are of a very domestic and contented disposition. Families of respectability have night after night their *tertulia*, or evening party, which includes a certain number of persons in the habit of frequenting the house; and at which strangers are received with great kindness and urbanity. It is not only wholly under the direction of the female part of the family, but the gentlemen of the house generally form part of another *tertulia*, or are in the coffee-houses talking politics. The amusements are Spanish country dances of a superior kind; waltzing, minuets, and a dance accompanied with words, in which the lady first advances, and sings, '*cielito, mi cielito*,' thence termed *cielito*, or little heaven. Refreshments of all kinds are offered; music also is introduced, and many of the ladies are superior performers. The party breaks up about eleven o'clock.

Music is, throughout the province, cultivated with some success, and it is the only one of the fine arts of which the remark can be made. In 1778 orders came out from the home government for the establishment of an university here, on the plan of that of Lima: but until 1819 the project remained dormant; it was then partially agitated, but the public disturbances in that year, and in 1820, put a stop to the plan. On the 9th August, 1821, however, a decree came out

for the formation of an university, with liberal provision for the payment of professors, &c. The Spanish spoken in Buenos Ayres is colonial, or rather provincial; many of the words in common use being vilely altered from their true pronunciation.

The public library, which originally consisted of about 12,000 volumes, and was founded principally by English merchants, has been much encouraged and increased by the government. It is under very good regulations, and by the printed returns, it appears that between the 21st March, and 31st December, 1822, it was visited by 2,260 persons, of whom 369 were foreigners. Books are exempted from all port dues and duties. There are, besides the *Registro Oficial*, several other gazettes published; such as the *Argos* and the *Centinela*, and all are well conducted.

The various courts of justice of late have been entirely remodelled, the salaries of the judges raised; and monthly lists of all the cases decided, or in progress, have been regularly published. The establishment at present consists of four counsellors of justice, at a salary of 2,000 dollars. The *consulado* takes cognizance of questions purely commercial, and of the enforcement of debts: juries are not as yet introduced, but the constitution has provided for this being in due time effected. The *cabildo*, or municipal body, has a charge over the city; and one of the *alcaldes* of it is termed 'the defender of the poor.' Each party to a civil action pays his own costs. The crimes that are punished with death are high treason, murder and robbery; and of late the military have been rendered amenable to the civil law.

We have traced the events of the revolution in the article SOUTH AMERICA. At present there seems to be great and unhappy jealousies between the original parties to the confederation, entitled the United Provinces; and since 1822 they have only, in reality, connected Santa Fé, Entre Rios, Corrientes, and Buenos Ayres, who are conjoined by a treaty, offensive and defensive, signed on the 8th February of the same year. And, although in the July preceeding, the court of Rio de Janeiro thought proper to recognise the state of Buenos Ayres; as at that period the incorporation of Montevideo and the Banda Oriental with the Brasil empire took place, the act was considered as proceeding rather from a desire to stifle the complaints of this republic, than from any feeling of kindness or liberality towards it. War, long threatened, has recently broken out between Brasil and Buenos Ayres. The recognition of Buenos Ayres by the government of the United States of North America, and by Great Britain, was viewed in a different manner, and hailed with the greatest enthusiasm.

We hope to have to record, under the article UNITED PROVINCES OF SOUTH AMERICA, the more entire final union of these rising and most interesting states.

BUEREN, a town of Holland, on the south of the Rhine, which was the general rendezvous of the British troops in December 1794 and January 1795. It is situated north-east from Leerdam.

BUET, a mountain in the department of Mont Blanc, 10,106 feet high.

BUFALMACCO, or BONAMICO, an Italian painter; the first who put labels to the mouths of his figures, with sentences; since followed by many bad masters, but most frequently and successfully in caricatura engravings. When a boy he was a scholar of Andrew Tasi, who was accustomed to rise before light to his painting; but early rising having no charms for Bufalmacco, he resolved to put in practice the following expedient, to detain his master in bed till daylight. Having provided twenty or thirty black-beetles, he fastened small pieces of lighted wax taper on their backs, and sent them thus equipped into his master's room through a small hole under the door. This mysterious procession of moving light so alarmed the old man that he prayed and recommended his soul to mercy, and hid his face under the bed clothes. In the morning he told Bufalmacco he had seen ten thousand devils, and that his thoughts were so disturbed he could not rise to pursue his profession. On the succeeding night Bufalmacco diminished the number of the beetles; but the repetition produced the same effect; and for the future Tasi always remained in bed till daylight. Being engaged to paint a picture of a Madonna and child, for a citizen of Florence, when the painting was finished his employer disputed the payment, on which Bufalmacco went away and prepared some water-colors, with which, early the next morning, he effaced the child, and painted a young bear in its stead, on the lap of the virgin; which excited so much ridicule against the employer, that he supplicated earnestly to have the work restored to its original condition; and, when he had paid the stipulated sum, Bufalmacco washed away the additional bear with a wet sponge. He died in 1340.

BUFF', v. & n. } Swed. *boff*, Bel. *boff*,
 BUFFET, v. & n. } Dan. *puff*, Fr. *bouffe*, barb.
 BUFFETER, } Lat. *buffo*, πᾶω, Lat. *pavio*,
 BUFFETING. } a blow or stroke. The verb
 is derived from the noun, to beat, to cuff, to box
 on the ear. Puff is a sound as well as a blow;
 and Chaucer has buf, an extra part of speech, in
 which he attempts to spell the inarticulate noise
 which escapes in eructation.

— of the foule spitting that met spitten in his
 face, of the *buffetes* that then gave him.

Chaucer. *The Persones Tale*.

My feeble vessel, crazed and crackt,
 Through thy strong *buffets* and outrageous blows,
 Cannot endure, but needs it must be wrackt
 On the rough rocks or on the sandy shallows.

Spenser.

If I might *buffet* for my love, I could lay on like a
 butcher.

Shakspeare. *Henry V.*

Our ears are cudgelled; not a word of his
 But *buffets* better than a fist of France.

Id.

The torrent roared, and we did *buffet* it
 With lusty sinews; throwing it aside.

Id.

O, I could divide myself, and go to *buffets*, for
 moving such a dish of skimmed milk with so honour-
 able an action.

Id.

Go, bailed coward, lest I run upon thee,
 And with one *buffet* lay thy structure low.

Milton.

There was a shock,
 To have *buff'd* out the blood
 From aught but a block. Ben Jonson
 Disguised in all the masks of night,
 We left our champion on his flight,
 At blindman's *buff*, to grope his way,
 In equal fear of night and day.

Butler's *Hudibras*.

Instantly I plunged into the sea,
 And *buffeting* the billows to her rescue,
 Redeemed her life with half the loss of mine.

Otway.

BUFF', n. From be off, as doff, for do off. A
 put off; a refusal. He would neither buff nor
 stay; he was undecided.

BUFF', n. & adj. Lat. *bubulus*, Ital. *buf-*
 BUFFALO, } *falo*, Fr. *buffle*, βαβαλος,
 BUFFLE, } Buffalo is a kind of wild
 BUFFLING. } bull; buff is leather made
 BUFFLE-HEADED. } of the skin of that animal;
 buffle is applied to a human animal, dull, thick-
 headed, and stupid. Buff is used by some writ-
 ters in the sense of naked; stripped to the skin.

A fiend, a fairy, pitiless and rough,
 A wolf, nay worse, a fellow all in buff.

Shakspeare.

Become the unworthy browse
 Of *buffaloes*, salt goats, and hungry cows.

Dryden.

A rosy chain of rheums, a visage rough,
 Deformed, unfeatured, and a skin of buff.

Id.

Thy soul which, through thy hide of buff,
 Scarce glimmers like a dying snuff.

Swift.

This was the utter ruin of that poor, angry, *buffing*,
 well-meaning mortal, Pistorides, who lies equally un-
 der the contempt of both parties.

Id.

Were I to taunt a *buffalo* with this
 Cloven foot of thine, or the swift dromedary
 With thy sublime humps, the animals
 Would revel in the compliment.

Byron's *Deformed Transformed*.

BUFF, in anatomy, signifies that sily, viscid,
 tough mass, which forms on the upper surface of
 the blood; and which physicians call the coagu-
 lable lymph. See BLOOD.

BUFFET', n. s. Fr. *buffet*. A kind of
 cupboard; or set of shelves, where plate is set
 out to show, in a room of entertainment.

The rich *buffet* well-coloured serpents grace,
 And gaping Tritons spew to wash your face. Pope.

BUFFET was anciently a little apartment, sepa-
 rated from the rest of the room by slender wooden
 columns, for the disposing of china, glass ware,
 &c. It now properly implies a large table in a
 dining-room, called also a side-board, for the
 plate, glasses, bottles, basins, &c. to be placed on,
 as well for the service of the table as for mag-
 nificence. In houses of citizens of distinction
 in France, the buffet is a detached room, decorated
 with pictures relative to the subject, with foun-
 tains, cisterns, and vases. It is commonly faced
 with marble or bronze.

BUFFIER (Claude), a French writer, who
 was born in 1661, became a jesuit in 1679, and
 died at Paris in 1737. He wrote many works,
 which show deep penetration and accurate judg-
 ment. The principal is, *Un Cours des Sciences*,
 &c. A Course of Sciences, upon principles new
 and simple, in order to form the Language, the
 Understanding, and the Heart. 1732, folio.

BUFFON (George Lewis le Clerc, Count de), the celebrated naturalist, was born at Montbard, in Burgundy, the 7th of September, 1707: his father was a counsellor of the parliament of Dijon, who lived to the age of ninety-three; and his family were remarkable for longevity. His mother's maiden name was Merlin. Buffon studied the law at Dijon; and his robust constitution, his eager activity, his acuteness and his penetration, gave early promise of success in whatever should be finally the pursuit of his choice. His early passion was for the mathematics, and he was never without Euclid in his pocket. At the age of twenty he is said to have discovered the binomial theorem, without knowing that he had been anticipated by Newton; and when at a future period of his life he was asked by M. Herault de Sechelle why he had never published this fact, he replied, 'because nobody was obliged to believe it.' At the same period the young lord Kingston coming to Dijon, Buffon accompanied him and his tutor into Italy, where, amidst the choicest remains of art, and the most interesting monuments of antiquity, he was attracted only by those charms of nature which he was destined hereafter to portray. He lingered in the valleys, and would pass whole hours contemplating the beauties of the evening sky of this delightful region; or be the leader of a mountain expedition, and industriously explore the torrents of lava, ancient and modern, or the bowels of a mine; but statues and paintings had no attractions for him; the most exquisite works of human skill, nor the most celebrated memorials of Roman greatness.—Natural history was the constant subject of his meditation and speculations—the cherished idol of his heart.

In his twenty-second year he succeeded, through his mother, to an ample fortune, and, returning to France, settled for a short time at Angers; but having here quarrelled with an English gentleman, and wounded him in a duel, he returned to Paris, and passed from thence to England. He stayed in this country but three months, and immediately on his return home entered upon that remarkable career of close and unwearyed study of which, in his rank of life and with his relish for society, we have scarcely another example. His first published work was a translation of *Hales' Vegetable Statics*, which appeared in 1735, and was followed in 1740 by a translation, from the Latin, of Newton's *Fluxions*. The prefaces to these translations were written in the same polished and noble style that distinguishes all his subsequent publications. The strength of timber was a subject that now engaged his attention; and he recommends that, for securing the consistency of the alburnum, the bark of a tree should be stripped from the feet at the time of the sap, when it should be allowed to dry and wither. He also investigated the ancient account of the burning mirrors of Archimedes, and endeavoured to construct an instrument approaching in its efficacy to the celebrated inventions of the Syracusan sage. He proposed, in the year 1748, a lamp à échelons, which was executed about

thirty years afterwards by the abbé Rochon, and of which the reader will find a description in our article BURNING GLASSES.

In 1739 he obtained the appointment of intendant of the royal garden and cabinet at Paris, the treasures of which were considerably augmented under his management, while the situation afforded him great facilities for the prosecution of his researches into every department of natural history. He now, therefore, arranged the materials and commenced the composition of his great work *Histoire Naturelle, générale et particulière*. The first portion, containing the Theory of the Earth, and the History of Man and Quadrupeds, in 15 vols. 4to. was begun in 1749 and completed in 1767. This was followed by seven supplemental volumes; after which appeared the History of Birds, 9 vols., the History of Minerals, 5 vols., the History of Oviparous Animals and Serpents, 2 vols., which, with an Atlas, 1 vol. completes the splendid original edition. In the anatomical details he was assisted by M. Daubenton, and in the history of birds, it is said, by M. Gueneau de Montbeillard; the rest is a monument of his own genius and industry. During its progress, the author (in 1743) was admitted a member of the French Academy, and delivered on this occasion a discourse, entitled, *Philosophical Remarks upon Style*, which is regarded as one of the most elegant of his compositions. In 1752 he married Mademoiselle de Saint Belin, by whom he had a son, who afterwards fell in the revolution. This young man delighted his father by the erection of a column to his honor in the gardens of Montbard, having this inscription:—

Excelsæ turri humilis columna
Parenti suo filii Buffon, 1785.

Buffon burst into tears on seeing it, and said—'Son, this will do you honor.' When this unfortunate gentleman was led to the scaffold by the minions of the revolutionary tribunal, he exclaimed with great dignity and composure 'My name is Buffon.' On the publication of his *Natural History*, the freedom, or rather absence, of religious sentiments, which appears in his works, having excited the indignation of the Sorbonne, he had the good sense to endeavour to dissipate their fears, by an explanation with which they were completely satisfied. France has done ample justice to this great work in her numerous and splendid editions of it; and into every considerable language of Europe it has been repeatedly translated. Louis XIV. to mark his sense of its merits, erected the estate of Buffon into a comté, and granted him the smaller customs; he even expressed a desire for his personal acquaintance, invited him to Fontainebleau, where he frequently consulted him respecting the cultivation of wood, and offered him the administration of all the forests in his dominions, a situation which Buffon declined. Buffon's application to study is said to have been so great in early life, that when he frequented the evening parties of Paris, and did not return to Montbard till two in the morning, he would be called at five, and ordered his servant to drag him out upon the floor if he showed the least unwilling-

ness to rise. When dressed, he dictated letters, and regulated his domestic affairs; and at six o'clock entered upon his studies at the pavilion, called the tower of St. Louis. This was situated at a remote part of his garden, about a furlong from the house; the only furniture which it contained being a large wooden secretary and a single arm-chair. Neither books nor pictures relieved the naked appearance of the apartment. Its entrance was secured by green folding doors, the walls were painted green, and the interior, from the elevation of the roof, had the appearance of a chapel. Within was another cabinet, where Buffon resided the greater part of the year, on account of the coldness of the outer apartment, and here he composed the greater part of his works. It was a small square building, situated on the side of a terrace, and ornamented with drawings of birds and beasts. Prince Henry of Prussia called it the cradle of natural history; and Rousseau, before he entered it, was accustomed, it is said, to fall on his knees and kiss the threshold. At nine o'clock Buffon usually paused for an hour; and his breakfast, which consisted of a piece of bread and two glasses of wine, was brought to the pavilion. Having passed two hours after breakfast in study he returned to his house. To his dinner he devoted a considerable time, and indulged in all the usual gaieties of the table. After dinner he slept an hour, then took a solitary walk, and during the rest of the evening either conversed with his family or guests, or sat at his desk examining papers. At nine he went to bed: and in this uniform manner spent not less than fifty years of his life. His labors were even continued to within a few hours of his decease, which took place 16th April, 1788, in the eighty-first year of his age.

The eulogies that have been pronounced upon the count de Buffon are numerous; and warm enough to have satisfied even his own vanity. The sustained dignity of his style, and the general accuracy and brilliancy of his descriptions, have been universally admitted: as a minister of the temple of nature he is always instructive and engaging; as a philosopher often profound. But his great work is throughout deficient in what the Greeks called *μεθοδος*—scientific method. He arranges nothing upon principle: he has no principle. He groups, and accumulates, and notes marks of likeness; but he does not distinguish, nor analyse, nor observe the unity of nature. Nor are the shining qualities of his style, considering it a work for the perusal of young people, a sufficient recompense for its occasional licentiousness and needless indelicacies. This work is a singular epitome of his whole character. Here, too, was dignity, gaiety, and cleverness pervading all he said and did; and in his conversation he was brilliant, and often profound in his remarks. But the want of all moral principle was as obvious in his life as that of philosophic method in his writings: and we do not consider that the interests of philosophy are served by disguising this. He condescended to be a hypocrite in a diligent attention upon the external forms of that religion which in heart he detested, and against which his biographers record him to

have uttered many bitter sayings to his confidential friends: and to his wife, as to his God, he was for a series of years a constant infidel—'violating all the principles of morality,' as no illiberal modern writer characterises him, 'especially in his commerce with women.' His vanity, we are told, was great enough to allow him to say, 'The writings of eminent geniuses are few; they are only those of Newton, Bacon, Leibnitz, Montesquieu, and my own.'

BUFFONI, in ornithology, a species of falco, the Cayenne ringtail of Latham. Color, cere blue; legs yellow; body dark brown above, red buff beneath; tail variegated with pale and dark brown. Found at Cayenne.

BUFFONIA, in botany, a genus of plants, class tetrandia, order digynia: cal. four-leaved: cor. petals four: pericarp. capsule, containing two seeds in one cell. There is but one species; a native of England.

BUFFOON, *v. & n.* *Ital. buffone, Fr. BEEFOON'ERY, } bouffon, Ital. buffa, BUFFOON'ING, } beffa, seem to be Teut. BUFFOON'LY. } affen, beaffen, to ape, to mimic; but Span. momo, jofó, gofo, bofo, are all perhaps from Μῶμος; Lolian βομος, which signified, indecency, scandal, obloquy, obscenity, and all such mirth as delighted the gods of the Greeks. In Lombardy, however, *bufo*, from Lat. *bucca*, signified the mouth, and was applied to those who made comic grimaces to excite laughter. The Italians believe it to be from the Lat. *bufo*, a toad, which in anger is said to puff and swell. A buffoon, Junius says, is a shrewd and crafty court-fool, a fool of pleasure, such as kings and great men love to entertain. The calling, however, is disreputable, and, like that of players in general, subjects its professors to the imputation of being rogues and vagabonds.*

It is the nature of drolls and buffoons, to be insolent to those that will bear it, and slavish to others.

L'Estrange.

Where publick ministers encourage buffoonery, it is no wonder if buffoons set up for publick ministers. *Id.*

As Killigrew buffoons his master, they Droll on their god, but a much duller way.

Marvell.

I'll wholly abandon all publick affairs, And pass all my time with buffoons and players, And saunter to Nelly when I should be at prayers. *Id.*

A colony of French possess the court, Pimps, priests, buffoons, in privy-chamber sport. *Id.* And whilst it lasts, let buffoonery succeed, To make us laugh; for never was more need. *Dryden.*

Bombastry and buffoonery, by nature lofty and light, soar highest of all, and would be lost in the roof [of the theatre], if the prudent architect had not with much more foresight contrived for them a fourth place, called the twelpenny gallery, and there planted a suitable colony, who greedily intercept them on their passage. *Sirisi.*

Courage, in an ill-bred man, has the air, and escapes not the opinion, of brutality; learning becomes pedantry, and wit buffoonery. *Locke.*

The bold buffoon, when'er they tread the green, Their motion mimicks, but with jest obscene. *Garth.*

BUFTOON is derived by Menage, after Salmasius, from *Buffo*; a name given to those who appeared on the Roman theatre with their cheeks

blown up; that, receiving blows thereon, they might make the greater noise, and set the people laughing. Rhodiginus and others make the origin of buffoonery more venerable; deriving it from a feast instituted in Attica by king Erechtheus, called buphonia. Buffoons are also denominated scurræ, gelasiani, mimologi, ministelli, goliardi, jocolatores, &c. Their chief scenes were at the tables of great men. Gallienus never sat down to meat without a second table of buffoons by him; Tillemont also renders pantomimes by buffoons; in which sense he observes, the shows of the buffoons were taken away by Domitian, restored by Nerva, and finally abolished by Trajan.

BUFO, in entomology, a species of bombyx, found in Germany. The wings are yellow, with a broad brown band, and yellow spots.—Also a species of curculio, inhabiting Siberia. Color fuscous; wing-cases slightly reticulated, with a white stripe in the middle.

BURA, in zoology, the specific name of a species of rana, commonly called, in English, the toad. The body is lurid and fuscous; back marked with tubercles; eyes red. The eye of the toad has always been noticed for its beauty. Toads have been often remarked by physiologists, as possessed of a capability of living for a long time without air or aliment. Of this the most astonishing instances are given by different authors. ‘In the foot of an elm, of the bigness of a pretty corpulent man, three or four feet above the root, and exactly in the centre, has been found a live toad, middle-sized, but lean, and filling up the whole vacant space: no sooner was a passage opened, by splitting the wood, than it scuttled away very hastily: a more firm and sound elm never grew; so that the toad cannot be supposed to have got into it. The egg whence it was formed must, by some very singular accident, have been lodged in the tree at its first growth. There the creature had lived without air, feeding on the substance of the tree, and growing only as the tree grew.’ This is attested by M. Hubert, professor of philosophy at Caen. Ambrose Paré, chief surgeon to Henry III. king of France, a sensible writer, relates the following fact, of which he was an eye-witness:—‘Being,’ says he, ‘at my seat, near the village Meudon, and over-looking a quarryman, whom I had set to break some very large and hard stones, in the middle of one we found a huge toad, full of life, and without any visible aperture by which it could get there.’ In the account of the proceedings of the Academy of Sciences at Paris, there are two or three accounts of the discovery of toads in the centres of elms, oaks, &c. which have been since repeatedly confirmed by observation. Observations of living toads, found in very hard and entire stones, occur in several authors, particularly Baptist Fulgosa, Doge of Genoa; the famous physicians, Agricola and Horstius, and Lord Verulam. An instance similar to these, of the truth of which we have no reason to doubt, was observed in this country in 1773; when a large toad was found in the middle of a piece of coal, having not the least visible crack or fissure. The toad appears to be confined exclusively to the European continent. It inhabits woods, gardens, fields, and

damp shady places, and frequently makes its way into cellars. In the early part of spring it retires to the waters, where it continues during the breeding season, and deposits its ova or spawn in the form of double necklace-like chains or strings of beautifully transparent gluten, and of the length of three or four feet, in each of which are disposed the ova in a continued double series throughout the whole length, having the appearance of so many small jet-black globules or beads. These globules are, in reality, no other than the tadpoles, and waiting for the period of their evolution, or hatching, which takes place in the space of about fourteen or fifteen days, when they break from the surrounding gluten, swim about in the water, and are nourished by various animalcules, gluten, leaves of aquatic plants, &c. When these have arrived at their full growth, the legs are formed, the tail gradually becomes obliterated, and the animals leave the water, and betake themselves to the surface of the ground. This generally happens early in the autumn. The notion of its being a poisonous animal has been opposed by Mr. Pennant, but it is a fact too generally known to admit of any question. Dogs, on seizing a toad, and carrying it for some little time in their mouth, will appear to be affected with a very slight swelling of the lips, accompanied by an increased evacuation of saliva; the mere effect of the slightly acrimonious fluid which the toad, on irritation, exudes from its skin, and which seems at least to be productive of no dangerous symptoms in such animals as happen to taste or swallow it. For a further account of this creature see the articles TOAD, and RANA.

BUFONITA, in natural history, the toad-stone. This has been received not only among the list of native stones by the generality of authors, but even has held a place among the gems, and is still worn in rings by some people; though undoubtedly it is an extraneous fossil. It was anciently believed that it was found in the head of an old toad; and that this animal voided it at the mouth on being put upon a red cloth. The general color of the bufonitæ is a deep dusky brown; but it varies greatly in this respect in several specimens, some of which are quite black, others of an extremely pale simple brown, a chestnut color, liver color, black gray, or whitish. The bufonitæ are usually found immersed in beds of stone, and there is now no doubt that they have originally been the petrified teeth of the lupus piscis, or wolf-fish, part of the jaw of the fish being sometimes found with the teeth petrified in it. The bufonitæ are said to be cordial and astringent: many other fanciful virtues are ascribed to them, which the present practice has rejected.

BUG’, } Ital. *bozza*, *pozza*, Arm. *pug*,
BUG’GY, } Fr. *punaite*, from Lat. *puteo*. A
BUG’GINS. } stinking insect. In the following passage wings are erroneously ascribed to it.

Yet let me flap this *bug* with gilded wings,
This painted child of dirt, which stinks and stings.
Pope.

BUG’, } Bug signifies primarily big, and
BUG’BEAR, } is applied to any ugly, monstrous
BUG’ANO. } object, that affrights children, both

of small and larger growth. In Gothic it is *bugg*, from *ugg*, in Saxon *oga*, terror. In Swedish *puke* means the devil, and in Icelandic it signifies demon; so that the general acception of the word bug is fear, terror, fright. Bugbear is a frightful object; from *bug*, terror, and *be ogre*, a frightener; a walking spectre, imagined to be seen: generally now used for a false terror to frighten babes.

Each trembling leaf and whistling wind they hear,
As ghastly *bug* their hair on end does rear,
Yet both do strive their fearfulness to feign.

Faerie Queene.

Sir, spare your threats

The *bug* which you would fright me with, I seek.

Shakespeare.

Hast not slept to-night? would he not, naughty man, let it sleep? a *bugbear* take him.

Id.

Who would believe what strange *bugbears*

Mankind creates itself, of fears

That spring like fern, that insect weed,

Equivocally without seed.

Butler's Hudibras.

Such *bugbear* thoughts, once got into the tender minds of children, sink deep, so as not easily, if ever, to be got out again.

Locke.

To the world, no *bugbear* is so great,

As want of figure, and a small estate.

Pope.

BUG, in entomology. See **CIMEX**. For the destruction of the house-hug, or cimex lectuarius, several methods have been tried, and several remedies proposed as perfect. The following recipe is the best with which we are acquainted: 'Mix one ounce of arsenic and one ounce of common smelling salts with one gallon of human urine, and diligently wash floors, bedsteads, &c. in it, until they disappear. Early in spring, even in February, the larvæ of these creatures begin to burst from the eggs; and it is at this season that attention is chiefly requisite. The bed ought to be stripped of all its furniture; which should be washed, and even boiled, if linen; if woollen, it should be hot-pressed. The bedstead should be taken to pieces, dusted, and washed with this mixture in the joints; for in those parts the females lay their eggs. Corrosive sublimate (*hydrargyrus muriatus*) and lard, has also been found efficacious, in the proportion of half an ounce of the former to six ounces of the latter. The sublimate should be first rubbed extremely fine in a marble mortar, adding a few drops of common oil, till its particles are minutely divided. The lard should then be added by little and little, till the whole is well mixed; and, lastly, as much more oil as will make the mixture of the consistency of a very thick paint.

BUGA MARBLE, in natural history, a name given by the Spaniards to a species of black marble, called by our artificers the Namur marble, and known among the ancient Romans by the name of marmor Luculleum. It is common in many parts of Europe, and is used by the Spaniards in medicine as well as in building; the powder of it being said to be an excellent styptic applied to fresh wounds.

BUGBANE, in botany. See **MENYANTHES**.

BUGEE, in zoology, a species of Indian monkey, very rare even in the Indies. It is about the size and color of a beaver, but its tail and claws are wholly of the monkey kind.

BUGELUGEY, in zoology, a large species of lizard, called by Clusius, and some others, *la-certus Indicus*. It grows to four feet long, and nine inches round; the tail is very long, and ends in an extremely slender point.

BUGEY, a ci-devant province of France, bounded on the east by Savoy, on the west by Bresse, on the south by Dauphiné, and on the north by Gex and Franche Comté. It was about forty miles long and twenty-five broad. It has many hills and rivers, which abound with trout and all sorts of game. Belley was the capital. It is now comprehended chiefly in the departments of the Ain and Cher.

BUGGASINES, buckrams made of calico.

BUGGE (Thomas Chevalier), a learned Danish astronomer, distinguished himself in a trigonometrical survey of the island of Zealand, undertaken in the middle of the last century, and in 1761 was sent to Drontheim to observe the transit of Venus, in conjunction with Maupertius and others who went to Lapland. In 1780 he superintended the re-erection of the royal observatory at Copenhagen; and shortly after went to France to assist the French philosophers in their new system of weights and measures. He published in 1800 an account of this journey. His work was translated into English, and published in one volume 12mo. He also wrote a Treatise on Mathematics, of which there is a German translation extant, and died at Copenhagen, January 1815, aged seventy-four.

BUGGENIAGII, in ichthyology, a species of cyprinus, having nineteen rays in the anal fin. The body is blackish above; compressed on the sides, with large silvery scales; white flesh. Found in the lakes of Sweden and Germany.

BUGGERS, **BULGARII**, anciently signified a kind of heretics, otherwise called Paterini, Cathari, &c. The word is formed of the French Bougres, and that from Bougria or Bulgaria, the country where they chiefly appeared. Among other opinions, they held that men ought to believe no Scripture but the New Testament; that baptism was not necessary to infants; that husbands who conversed with their wives could not be saved; and that an oath was absolutely unlawful. They were strenuously refuted by Fr. Robert, a Dominican, surnamed the Bugger, as having formerly made profession of this heresy. They are mentioned by Matthew Paris, in the reign of Henry III.

BUGGERY, or Sodomy, is a sin against God and nature, first brought into England by the Lombards. As to its punishment, the voice of nature and of reason, and the express law of God (Levit. xx. 13, 14.) determines it to be capital. Our ancient law commanded such miscreants to be burnt to death; though Fleta says, they should be buried alive; either of which punishments was indifferently used for the crime among the ancient Goths. But now the general punishment of all felonies is the same, viz. hanging; and this offence, being in the times of popery only subject to ecclesiastical censures, was made felony without benefit of clergy, by stat. 25 Hen. VIII. c. 6, revived and confirmed by 5 Eliz. c. 17. The law is, that, if both parties are arrived at the years of discretion, agentes et consentientes

pari pæna plectantur, 'both are liable to the same punishment.'

BUGIE, a town of Egypt, situated on the west shore of the Red Sea, almost opposite to Ziden, the port town of Mecca, and about 110 miles west of it.

BUGINVILLEA, in botany, a genus of plants; class octandria, order monogynia. Gen. char. CAL. none: COR. tubular, permanent, four-toothed; eight filaments, inserted on the receptacle: GERM. superior, oblong: PERICARP one-seeded. Species, 1 B. spectabilis, a fine evergreen shrub growing in Brasil.

BUG'GY. Goth. and Dan. *bugge*; a cradle; a large basket; a small wheeled carriage.

BU'GLE, *n. s.* } From *bugen*, Sax. to bend,

BUGLEHORN. } Skinner; from *bucula*, Lat. a heifer, Junius; from *bugle*, the *bonasus*, Lye. A hunting horn. Chaucer uses it in the sense of a drinking vessel. Gloss. Urry derives it from *bucula cornu*; Gloss. to Anc. Scott. Po. explains *bowgle* to mean a buffalo. I have been told that now, in some parts of the north, a bull is called a boogle.

Janus sits by the fire with double berd,
And drinketh of his buglehorn the wine
Before him slant braune of the tusked swine.

Chaucer's Canterbury Tales.

The king set a buglehorn to his mouthe,
And bleæ bothe loude and shrille;
And soone came lords, and soone came knights,
Fast ryding over the hille. *Old Song.*

Then took that squire an horny *hugle* small,
Which hung a down his side in twisted gold,
And tassels gay. *Faerie Queene.*

I will have a rechte winded in my forehead, or
hang my *bugle* in an invisible baldrick. *Shakspeare.*

He gave his buglehorn a blast,
That through the woodland echoed far and wide. *Tickell.*

There's rest for the rover;
But his armour is rusty,
And the veteran grows crusty,
As he yawns in the hall.
He drinks,—but what's drinking?
A mere pause from thinking!

No *bugle* awakes him with life-and-death call.
Byron. Deformed Transformed.

BU'GLE, *n. s.* A shining bead of black glass, longer than the common bead, and now chiefly used for trimmings.

Bugle bracelets, necklace amber,
Perfumed for a lady's chamber. *Shakspeare.*

'Tis not your ink brows, your black silk hair,
Your *bugle* eye-balls, nor your cheek of cream,
That can entame my spirits to your worship. *Id.*

BU'GLE, *n. s.* in botany, from *bugula*, Lat. A plant. See **ADJUGA**.

BU'GLE, *n. s.* A sort of wild ox.
BUGLOSS, *n. s.* in botany, from *buglossum*, Lat. The herb ox-tongue. See **ANCHUSA**.

BUGLOSS, in botany.
BUGLOSS, SMALL WILD. See **ASPERUGO**.
BUGLOSS, VIPER'S. See **ECHINUM**.

BUGLOSSUS, in ichthyology, a name used by many authors for the soal fish.

BUIIL, a small fortress of Suabia, on the lines of Stolhoffen, seventeen miles north-cast of Strasburg.

BUILD', *v.* } Goth. *bua*, *bulada*; Swed.
BUILD'ER, *n.* } *bua*, *bylja*, to construct an edi-
BUILD'ING, } fice; Sax. *bolt*, an edifice,
BUIL'. } bygcan; Ang.-Sax. to build. To raise from the ground; to make a fabric or an edifice; to raise in any labored form; to raise any thing on a support or foundation; to play the architect (Met.); to depend; to rest on.

Thou shalt not *build* an house unto my name. *Chronicles.*

But they ran doubten hir rental,
Fo bigge hem castles. *Chaucer's Plowman's Tale.*

Thomas! nought of your treson I desire
As for myself; but that all our covent
To pray for you is, ay, so diligent;
And for to *bilden* Cristes owen chirche.
Thomas, if ye wal lernen for to wirche,—
Of *bilding* up of chirches, may ye finde
If it be good in Thomas lif of Inde.

Id. Canterbury Tales.

Deepe in the bottome of the sea, her boure
Is *built* of hollow billowes heaped hye,
Like to thick clouds that threat a stormy showre,
And vaulted all within like to the skye,
In which the gods doe dwell eternally. *Spenser.*

Thou findest fault where nys to be found,
And *buildest* strong worke upon a weak ground. *Id.*

When usurers tell their gold in the field,
And whores and bawds do churches *build*.
Shakspeare.

By a man's authority, we here understand the force
which his word hath for the assurance of another's
mind, that *buildeth* upon it. *Hooker.*

But fore-accounting oft makes *builders* miss;
They found, he felt, they had no lease of bliss.
Staney.

Some *build* rather upon the abusing of others, and
putting tricks upon them, than upon soundness of their
own proceedings. *Bacon.*

I would endeavour to destroy those curious, but
groundless structures, that men have *built* up of
opinions alone. *Boyle.*

Forts, lines, and sconces, all the bay along,
They *build* and act all that can make them strong.
Marvell.

As is the *built*, so different is the fight;
Their mountain shot is on our sails designed;
Deep in their hulls our deadly bullets light,
And through the yielding planks a passage find.
Dryden.

Even those who had not tasted of your favours, yet
built so much on the fame of your beneficence, that
they bemoaned the loss of their expectations. *Id.*

When the head-dress was *built* up in a couple of
cones and spires, which stood so excessively high on
the side of the head, that a woman, who was but a
pigmy without her head-dress, appeared like a Colos-
sus upon putting it on. *Spectator.*

Warburton took it in his noddle
This *building* was designed a model,
Or of a pigeon-house or oven,
To take one leaf or keep one dove in. *Swift.*

There is hardly any country which has so little ship-
ping as Ireland; the reason must be the scarcity of
timber proper for this *built*. *Temple.*

Her wings with lengthened honour let her spread,
And, by her greatness, shew her *builder's* fame.
Prior.

To *build*, to plant, whatever you intend,
To rear the column, or the arch to bend. *Pope.*

Turn to the mole which Hadrian reared on high,
Imperial mimic of old Egypt's piles,
Colossal copyist of deformity,
Whose travelled phantasy, from the far Nile's
Enormous model, doomed the artist's toils
To build for giants. *Byron's Child Harold.*

BUILDING is also used for the art of constructing and raising an edifice. See ARCHITECTURE. The principal statutes relating to building are, 19 Car. II. c. 3; 22 Car. II. c. 11; 5 Eliz. c. 4; 35 Eliz. c. 6; 6 Ann. c. 31; 7 Ann. c. 17; 33 Geo. II. c. 30; and 6 Geo. III. c. 37. Those for regulating all buildings in the cities of London and Westminster, and other parishes and places in the weekly bills of mortality, the parishes of St. Mary-le-bone, and Paddington, St. Pancras, and St. Luke at Chelsea, for preventing mischiefs by fire, are reduced into one act by statute 44 Geo. III. c. 78. The regulations of this law are very minute and technical.

BUILDING OF SHIPS. See SHIP-BUILD'NG.

BULLTH. See BEALT.

BUIS, a ci-devant territory of France, in Dauphiné. It is mountainous, but tolerably fertile.

BUIS, a town of France, in the department of the Drome, and ci-devant territory of Buis, eight miles south-east of Nions.

BUKHARIA, BOKHARIA, or BUCHARIA, (Great and Little) is the name of two considerable divisions of Independent Tartary, originally introduced into our maps from Russia. As it is generally applied, it describes rather a race or races of eastern merchants, who have called themselves Bogars, i. e. Bukharis, in the neighbourhood, and stated that they came from BALKH (which see), Cashghar, Yarkind, &c. than any specific countries or states. For no one country, but what we shall have hereafter to describe as Bukhara or Bucharia Proper (and which is distinct from both of those districts which modern geographers have called Great and Little Bukharia) ever bore this name. Europeans who have received these statements of the traders, respecting their country, have transferred to the regions in question the name of Bukharia, as inhabited by the Bukharis.

Thus understood, Great Bukharia is said to extend between the 35° and 44° of north lat., and from the 59° to the 73° of east long. being bounded on the north by the river Sirr, Sihon, or Saihun, and on the south by the Amu or Jaihun, known also as the Jaxartes and as the Oxus of the ancients, and a chain of mountains on the frontiers of Persia and Hindostan. On the east is Little Bukharia. Great Bukharia comprehends the three states of Balkh, Samarcand, and Bukharia Proper; and includes the Sogdiana and Bactria of the ancients. There is an agreeable variety in its geographical features: the climate is said to be temperate and healthy; and the soil the most productive of any part of Northern Asia, especially in the plains near the Sirr and the Amu. Rice and corn are cultivated here; but the country is principally laid out in pasturage, which rears so large a breed of sheep and horses, that of the latter 60,000, and of the former 10,000, have been sent annually into Russia. The mountains are rich in mineral productions, particularly in the state of BALKH, to

which we refer; in Fergana, a northern province, gold, quicksilver, iron, copper, and vitriol, are found. The inhabitants, however, generally content themselves with gathering the grains of gold and precious stones, as they are washed down by the torrents, when the snow begins to melt; and appear to have no inclination to any further improvement of their advantages. So irregularly has this region been described, under its present name, that sometimes we find a country lying northward, and called Mawerahnahr (or the land beyond the river) and corresponding with the ancient Transoxana, though extending far beyond the Sirr, included in it; as Balkh, on the other hand, certainly lies to the south of the Amu or Oxus. Both the province and town of Balkh, we have described. Samarcand, once considered the capital of Great Bukharia, stands in a fertile valley, on the banks of the river Sogd, which afterwards joins the Oxus or Amu. Here Tamerlane resided, and made it one of the most renowned cities of the east. It was famed for its learning, and contained one of the most celebrated of the Mahommedan universities, while it surpassed most other places of the east, at the middle of the seventh century, in the manufacture of silk and paper; but its days of splendor are gone by. Some of the houses are built of stone, others of an inferior brick; but the whole place is environed with ramparts, which are said, in the fifteenth century, to have included a population of 150,000 persons. See SAMARCAND. It still conducts a brisk trade in the fruits of the district, and under Shah Murad Bey, who took it from the Tartar tribe of Yuz, has recovered some of its former greatness. The inhabitants may be said to consist of three distinct tribes, the native race of Buchars, the Moguls, and the Usbeck Tartars. The first, or the Buchars, who inhabit the towns and villages, are quiet and inoffensive in their manners: they are devoted to trade and commerce; and are said never to carry a weapon; both the other tribes are of violent and warlike character, delighting in martial exercises; and constantly engaged in quarrels and hostilities with the Persians or Hindoos. The Usbeck Tartars are the rulers of the country, which is governed by khans, to whom the inhabitants pay a tribute, gathered yearly. The original race carry on most extensive commercial intercourse with Russia, China, and Tibet; some have conjectured their origin to be Jewish, and connected with the obscure history of the lost ten tribes, others that they are of Persian or Scythian origin. Be this as it may, they are diffused throughout all the east, and have a great general resemblance; are of fair complexion, with black, expressive eyes, a Roman nose, fine general features, and a profusion of black hair and beard. Their women are remarkably beautiful. The Usbecks are for the most part short and stout; their complexion is clear and ruddy, the hair black, and the beard thin. They have a broad forehead, high cheek bones, and small eyes. The men dress in a cotton shirt and trowsers, over which is a coat or tunic of silk or woollen cloth, bound by a girdle, and a gown of felt or woollen. The national head dress is a large white turban over a kalpac or pointed silken cap. Boots are worn

by all classes and by both males and females, and bandages round the legs, instead of stockings. The general dress of the latter differs little from that of the men, except that it is longer. Gold and silver ornaments are also used in profusion by both sexes. The Usbecks are said to prefer horse flesh to beef, and to fatten a number of horses annually for food; but, as this is expensive, they are forced to content themselves with beef on common occasions. These people pride themselves on being the bravest, most robust, and most hardy of the Tartar race. They make excellent light cavalry, and advance with shouts, drawn up in three lines; till the third has given way, they never consider themselves defeated. The rapidity of their movements is only equalled by their patience of thirst, hunger, and fatigue. Their laws of war are those of unqualified barbarians: infidel captives are sold as slaves; and this treatment being unlawful in regard to enemies of their own faith, they suffer a more cruel fate, and are butchered without mercy. Yet in private intercourse they are said to be open, hospitable, and sincere; quarrels are rare, and a murder is scarcely known amongst them. Mr. Elphinstone considers Bukhara as that country of Asia through which a traveller may pass most securely of any. This was the Sogdiana of the progress of Alexander the Great to Kojend, on the Sirr. When Persia was overrun in the seventh century by the Mahomedans, it attracted the notice of historians, and we find it conquered and reconquered several times in the course of the ninth, tenth, and eleventh centuries. A regular succession of klans may be traced until 1494, when sultan Baher, a descendant of Tamerlane, was expelled from Bukharia, and, proceeding to Hindostan, founded the great empire of the Moguls. About the beginning of the sixteenth century, the descendants of Timur were finally driven from this territory by the Usbecks, who, crossing the Jaxartes, carried every thing before them, till stopt by the central barrier of mountains. They thus established themselves here in small sovereignties, and have ever since remained the rulers of Bukhara, Balkh, Fergannah, &c. Other principal places besides those we have mentioned, are, Badakshan, Osrushna, Kotlan, Termed, Anderab, and Gaur. See *Peuchet Dictionnaire*, &c. *Recueil de Voyages au Nord*, tom. x. p. 127; *Gibbon's Roman Empire*, vols. iv. xi. xii; and *Elphinstone's Cabul*, &c.

BUKHARIA, LITTLE, was formerly known as the kingdom of Cashgar, and is supposed to include part of ancient Scythia. It is not inferior in extent to the former, reaching from 73° to 100° of E. long. and from 36° to 44° N. lat. but is so in the nature of its soil, climate, population, and the number of its towns. The Great Al-chain forms its boundary on the north, China on the east, and a chain of mountains, the frontier of Tibet, on the south. It is about 1000 miles in length, and nearly 500 in its greatest breadth; almost surrounded and occupied with lofty mountains and sandy deserts. In some of the valleys, however, cotton, flax, hemp, vines, and the oriental fruits, are abundant. The inhabitants, in their manner and dress, resemble

those of Great Bukharia; and their chief trade is with China, Persia, and the north part of Asia. This was that part of ancient Scythia, which extended beyond the Imaus. Its rivers are, Yarkand, which is represented as issuing from Lochnor Lake, and passing through immense deserts, in a line of not less than 500 English miles, supplies the Koten, Orankash, &c.; the Chaidu, which proceeds from the same lake; and the Karia, which has its origin in a lake in the desert of Sultus. The manners, dress, and appearance, of the inhabitants are nearly the same as in Great Bukharia; the women wear a greater profusion of ornaments, and dye their nails with henna, and the whole are a darker race. The principal towns of Little Bukharia are, Cashgar, Yarkand, Koten, Karia, Chialish, and Turfan. The Calmucks, on their conquest of Great Bukharia, had obtained quiet possession of this country also, until the beginning of the eighteenth century, when a gold mine discovered in these mountains, brought on them an army of Mongales and Chinese, who completely defeated the Calmuck forces and pursued them into the deserts. The emperor of China now sent a powerful reinforcement hither, well furnished with artillery, under the command of his son, and attended by a Jesuit of Peking. This prince boldly passed the deserts, by the route which the Calmucks had taken, and entered the extensive plains of Turfan and Hami; but, being unwilling to risk his army in an engagement, contented himself with erecting a chain of forts here, under the protection of which forts, the Chinese kept possession of these provinces, until the Calmucks, unable to drive them out without the aid of cannon, had recourse to the assistance of Russia. In 1720 they offered to pay an annual tribute to that power, upon condition that it would supply an army of 10,000 regular troops, well equipped with cannon, to enable them to meet the Mongales and Chinese: but Peter the Great, who was at that time at war with Sweden, did not listen to their proposals. Consequently the Chinese remained masters of these provinces, which Kien Long in 1759 brought into final subjection, and they remain tributary to the Chinese empire.

BUKHARIA PROPER, or the state of Bukhārā, is the most westerly of the three states which form the province of Great Bukharia, and is bounded on the north by a chain of low barren hills, called Sú-sez-kari, on the east by Samar-cand, on the south by the Amú or Oxus, and on the west by Khwārizm. It was in a very flourishing state in the fourteenth and fifteenth centuries, well known for the excellence of the climate and productions, and for the philosophers, poets, and historians, who here enjoyed the patronage of the descendants of Timúr. Its present condition is just the reverse of this; at least politically considered. Hardly any part of Asia is less known to Europeans, and has undergone a more complete change.

The whole productive territory may perhaps, according to the recent accounts of Dr. Eversmann, a German traveller, be estimated at 50,000 square miles. It commences at a small distance north of Samarcand, where low hills, the out-

works of the Imaus, stretch from north to south, and separate the fertile parts of the country from the deserts. The country is watered by the Sihron on the north, and by the Oxus on the south, with a lake called Taran in the centre. The water, however, of each is said to be brackish; and a considerable portion of the country has a flat and sandy surface. There are several chains of mountains, from which torrents descend to join the larger rivers during the melting of the snows; at the bottom of which gold is occasionally found.

The inhabitants of Bukharia consist of two classes: the Tanjiks, or citizens; and the Usbecks, a tribe of Tartars. Some have supposed them to have been of Jewish origin, and others that they are the descendants of the ancient Scythians. In Bukharia all persons pursue some occupation; some employing themselves in mechanical trades, others in foreign commerce. The tribe of the Usbecks, though usually esteemed the most civilised of the Tartars, are more fond of warfare and feudatory habits than agriculture or the arts. All classes, both men and women, wear boots; and to general appearance, both sexes dress very much alike. The Usbecks prefer horse-flesh to any other food; and for this purpose horses are kept to breed and fatten, like oxen and sheep in other countries. This country has for many ages been celebrated for its literature, but with very little claim to this character.

Bukharia was anciently known, during the marches of Alexander the Great, by the name of Sogdiana, or the river Sirr. It has undergone many changes in its government, though a regular succession of khans may be traced to the year 1494, when the sultan Bahar, a descendant of Tamerlane, was expelled from Bukharia, and proceeding to Hindostan, there founded the Mogul empire.

The Tartar Usbecks established a powerful monarchy here, under Shah Bakt, whose successor was defeated by Ismael in 1529. His posterity continued for 200 years. In 1747 Raheem Bey usurped the government of Bukharia. At the close of the eighteenth century, a chief, named Ameer Daniel, possessed the post of authority. At his death he divided his immense wealth among his offspring, and nominated his son, Begge Jan, to the supreme dignity. This man, who in early life was excessively dissipated, converted himself all at once into an ascetic; and from the air of sanctity which he assumed, and the austerities which he practised, attracted the multitude to him from all quarters, whose devotion to him supplied the place of a legal title to the crown. Affecting great moderation, he divested his government of all its splendor; and himself presided over the deliberations of justice. Though commanding an army of 60,000 soldiers, he rode on a poney, fed on the meanest provisions, and was clad like one of the poorest classes. Thus furnished, he invaded Khorassan, and conquered all the countries between the Oxus and Jaxartes. After his death, occurring about the beginning of the nineteenth century, his eldest son, Hyder Furrals, ascended the throne of Bukharia, and assumed the name and dignity of sovereign over the empire.

BUKHARIA, BOKHARA, or BOGAR, a city of Asia, the capital of Great Bukharia, situated on a river, flowing into the Oxus, from which latter it is distant about fifty miles, and from Samarcand about 100 miles. It occupies a rising ground, and, in the year 1741, was surrounded by an earthen wall and a dry ditch. The houses are low, and for the most part built of mud; but the mosques and caravanseries are built of stone. There are colleges here which are capable of containing from 60 to 600 students each; and in that of Kokul Taush in particular, a fine edifice for the education of Mahomedan priests, there are 300 apartments for the accommodation of students. Bukharia has always been celebrated for the study of Mahomedan theology and law; and the inhabitants have been reckoned superior to those of the neighbouring districts in civilisation. They are engaged in manufactures of cotton yarn, calicoes, and soap, which are exported to Persia,⁴ while from that country they receive velvet, silk sashes, shalloons, indigo, cochineal, and coral. Rhubarb, musk, and castor, are obtained from Taschkand, and precious stones and lapis lazuli from Badakshan. The trade of Bukharia has latterly declined. A portion of European manufactures is consumed, which gave rise to a plan, so long ago as 1557, and repeated in 1741, for supplying the city with English commodities. On each occasion English merchants travelled to this spot, and were hospitably received, but it was found that the expected price was inferior to the hazard of bringing the goods. Merchants of all kinds now meet with encouragement, and all religions are tolerated. The population is supposed to exceed 100,000.

BUL, in the ancient Hebrew chronology, the eighteenth month of the ecclesiastical, and second of the civil year: since called Marševan. It answers to our October, and has twenty-nine days.

BUL, in ichthyology, the flounder.

BULAC, a town of Egypt, situated on the east shore of the Nile, about two miles west of Grand Cairo, of which it is the port town. It is a place of trade, as all the vessels going up and down the Nile make some stay in it. The baths here are excellent.

BULEUS (Cæsar). See BOULAY.

BULAFU, a musical instrument, used by the negroes of Guinea, consisting of several pipes of wood tied together with thongs of leather, so as to form a small interstice between each pipe.

BULAM, BULAMA, or BULLAM, is the best known of the Bissagos islands, on the western coast of Africa, between the Gambia and Sierra Leone, at the mouth of the Rio Grande. It is directly opposite the entrance of that river; about nine leagues long east and west, and five broad. From the shore it rises gradually to some hills in the middle, which are covered with wood, and from which descend numerous streams. Horses, horned cattle, buffaloes, and goats, are found wild on it, as well as elephants, hyenas, deer, and wild dogs. In the vicinity of many navigable rivers, which extend far into the continent, and would greatly facilitate a trade with the internal parts of Africa; and possessing a deep and luxuriant soil adapted to every species of cultivation.

tion, it seems to offer a most desirable settlement to any European nation. Cotton, indigo, and rice, are its spontaneous productions; and pine-apples, limes, oranges, grapes, plums, cassada, gnava, India wheat, melons, pumpkins, tamarinds, bananas, and many delicious fruits, grow here, it is said, in great abundance. Sugar and tobacco, and indeed all the other productions of our West India islands, may also be cultivated in equal perfection; and, considering the richness of the soil, to much greater advantage. When the English attempted an establishment on this island in 1792, the inhabitants of the neighbouring islands cultivated rice and millet here. West of Bulam is Gallina island, so named from abounding in Guinea fowls, inhabited, fertile, and well cultivated. Arcas, or Bow Island, north of Bulam, has no fresh water. Mantere Island, south of Bulam, forms the south point of the entrance to the Rio Grande, and is only separated from the main land by a narrow channel or creek.

The Bulama, or Sierra Leone Association, in 1792, was composed of gentlemen who, anxious for the final termination of the slave trade, and the civilisation of this quarter of Africa, determined to attempt the formation of a settlement on this island, as a means of promoting both objects. The plan failed, but the efforts made brought us better acquainted with the Archipelago; and from the narrative of captain Beaver, who finally commanded the expedition, we shall transcribe a few details:—

The expedition, entrusted to the command of captain Dalrymple, and a council of twelve gentlemen, consisted of three vessels, the *Calypso*, *Hankey*, and *Beggar's Benison*, with the colonists on board, consisting of about 280 souls, men, women, and children. It sailed from the Downs 6th of April, 1792. On the 25th of May, the *Calypso*, parting from her consorts, anchored off Bulama. Unaccustomed to the confinement of a sea-voyage, the colonists were here not only eager to get on shore; but instead of calmly endeavouring to conciliate the *Bijugas*, or natives of the island, they landed without order or precaution; some erected huts, others wandered through the woods in search of game and fruit, and returned to the ship or not as they thought proper at night. During the first night, their tents, and whatever they had left on shore, were carried off. At mid-day on Sunday the 3d of June, while some of the colonists were asleep, and others hunting and fishing, they were attacked by the former inhabitants, who fired a volley into the hut which contained the arms of the new colony. Those within, being roused from their sleep, rushed out and were immediately shot. The rest, unprepared and unarmed, upon hearing the firing, hid themselves among the rocks, or attempted to gain the beach; by which the greater number escaped, while others were intercepted and taken prisoners. The English in this affair had five men and one woman killed, four men wounded, and four women and three children taken prisoners; and the savages retired with a rich booty of sixty stand of arms, and a quantity of ammunition, besides kitchen utensils, wearing apparel, &c. After landing a party of armed men (under a discharge

of cannon from the ship) to bring off their water-casks, the *Calypso*, early the following morning got under weigh for Bissao, where she was joined by the *Hankey* and *Beggar's Benison*. Irritation and reproaches now broke out between the colonists and the members of the council, and each attributed their misfortunes to the other. These complaints, and the fever which appeared in the *Calypso*, and had been communicated to the *Hankey*, reduced the majority to despondency; but ashamed of relinquishing their design without another attempt, they returned to Bulama, and having redeemed their captives, purchased the island from the kings of Carnabol for the value of 473 bars in goods, about £79 sterling. No sooner, however, was this transaction concluded, than, instead of availing themselves of the right which they had acquired, the council determined to abandon the enterprise as at present impracticable, and communicated their determination to the colonists in the following resolution: 'That seeing the rainy season has already commenced, and it appearing, from every information we can collect, that we cannot land because of the rains and fogs at least for four months, and that with every precaution there will probably be a considerable mortality among the settlers during that time, and considering withal, that a great proportion of the adventurers in each ship are solicitous to return to Europe, it is the opinion of the council, that the two ships and the sloop should be removed to Sierra Leone to water, and there the expediency of proceeding to England, or of returning hither after the rains, shall be taken into consideration.' Against this captain Beaver entered his protest; and declared to the council that he was determined to remain on the island, with his servant, though every one else should leave it; and in this determination he was joined by one of the council, and between eighty and ninety of the colonists. It was then agreed that the *Hankey* and *Beggar's Benison* should remain at Bulama, and that the *Calypso* should proceed to Sierra Leone, with those who wished to return to England. The settlers were thus reduced to a third of their number, and when mustered by captain Beaver, who was unanimously chosen their president, were found to consist of forty-eight men, thirteen women, and twenty-five children. Having adopted proper regulations for maintaining subordination, sobriety and discipline, in the colony, and established a friendly communication between Bulama and the Portuguese settlement on the island of Bissao, the first care of the colonists was to protect themselves from the heat of the sun, and the violence of the rains, by covering the ship with a wooden roof. They then set about clearing a piece of ground for a garden, and built a block-house, which was to serve as a habitation, magazine, and citadel. Both tropical and European plants and seeds succeeded beyond their expectations; and all vegetable productions quickly arrived at maturity. Several free negroes had been hired; who, being well treated, and allowed to leave the island, whenever dissatisfied, worked well. During the residence of the English at Bulama, 196 of these Africans had been employed on the island. Many of the surrounding tribes also

visited the colony, with a view to trade. The colonists, in all their dealings with the negroes, observing the strictest integrity; and rigorously adhering to their determination of never being concerned in the purchase of slaves; soon gained the good-will and confidence of the neighbourhood. Sickness and disaffection, however, at length spread among the settlers, and their numbers were daily diminished by desertion or disease. To such a state were they sometimes reduced, that there was scarcely an European fit for work, or to give directions; and out of the eighty-six which staid, after the sailing of the *Calypso*, within nine months ten only were left. These, when at last reduced to nine, became so dispirited, that the whole affairs and business of the colony rested with captain Beaver; and whatever the energy and perseverance of one man could perform, was now done. He encouraged his countrymen to exertion by his example, supplied their wants, and soothed their distresses. Fear, however, and despondency had completely prostrated their minds. They saw only certain death before them if they remained; and after strong solicitations to return to England, and frequent threatenings to abandon him, captain B. was compelled at last to accede to their request, and quitted the island, 29th November, 1793. Thus terminated this laudable, but ill-concerted scheme; and others of a similar character, we fear, must yield to the torrid climate of the neighbourhood.

BULAPATHUM, in botany, the dock. See *RUMEX*.

BULARCHUS, a Greek painter, who first introduced (among the Greeks at least) different colors in the same picture. He flourished about A.A.C. 770.

BULATMAI, in ichthyology, a species of cyprinus, the anal fin of which contains eight rays; the second dorsal fin is large and not serrated; cirri four. It is a rare fish, of the size of the carp. Color steel blue, gold above, and silvery, with a golden hue beneath: the scales are of the middle size, and imbricated; flesh white and good. It is found in the Caspian Sea.

BULATWELA, in botany, a name by which some authors have called the betel.

BULB', *n.* } *Lat. bulbosus, bulbaceus.*
BULBA'CEOUS, *adj.* } A round body, or root.
BUL'BOUS, *adj.* } Bulbous, having round, or roundish knobs.

There are of roots, *bulbous roots*, fibrous roots, and hirsute roots. And I take it, in the *bulbous*, the sap hasteneth most to the air and sun. *Bacon.*

Set up your traps for vermin, especially amongst your *bulbous roots*. *Evelyn's Calendar.*

Take up your early autumnal tulips and *bulbs*, if you will remove them. *Id.*

If we consider the *bulb* or ball of the eye, the exterior membrane, or coat thereof, is made thick, tough, or strong, that it is a very hard matter to make a rupture in it. *Ray.*

BULP, in the anatomy of plants, is defined by Linnæus to be a species of *hybernaculum*, produced upon the descending caudex or root; consisting of stipulæ, petioli, the rudiments of the former leaves, and scales or bark. To elucidate this definition it is proper to remark, that every

bud contains, in embryo, a plant in every respect similar to the parent plant upon which it is seated. Plants, therefore, are perpetuated in the buds, as well as in the seeds; and the species may be renewed with equal efficacy in either way. The tender rudiments of the future vegetable, of which the bud is composed, are enclosed, and during winter defended from cold and external injuries, by a hard rind, which generally consists of a number of scales placed over each other like tiles, and fastened together by means of a tenacious, resinous, and frequently odiferous, substance. Thus defended, the buds remain upon different parts of the mother plant till spring; and are therefore, with propriety, denominated by Linnæus the *hybernaculum*, or winter quarters, of the future vegetable. Buds are situated either upon the stem and branches, or upon the roots: the former are styled *gemmae*, or buds properly so called; but, as they subsist several years by their roots, may be furnished with the other species of *hybernaculum* called *bulbs*. Trees which are perennial, with a woody and durable trunk, have generally proper buds, but no bulbs. In bulbous plants, as the tulip, onion, or lily, what we generally call the root is in fact a bulb, which encloses and secures the embryo or future shoot. At the lower part of this bulb may be observed a fleshy knob, whence proceed a number of fibres. This knob, with the fibres attached to and hanging from it, is, properly speaking, the true root; the upper part being only the cradle or nursery of the future stem, which, after the bulb has repaired it a certain number of times, perishes; but not till it has produced at its sides a number of smaller bulbs or suckers for perpetuating the species. One part of Linnæus's definition still remains obscure:—The bulb, says he, is composed of the remains or rudiments of the former leaves of the plant; *e rudimento foliorum præteritorum*. It is easy to comprehend that buds contain the rudiments of the future leaves; but how can bulbs be said to contain the rudiments of leaves that, to all appearance, are already perished?—To explain this, let it be observed, that, in the opinion of very eminent botanists, the root, in a very great number of perennial herbs, is annually renewed or repaired out of the trunk or stalk itself; in which sense only, roots are properly said to descend. In the perennials alluded to, the basis of the stalk continually, and by insensible degrees, descends below the surface of the earth, and is thus changed into a true root; which root, by the continuance of the said motion of the stalk, also descends; and thus, according to the durability of its substance, becomes a longer or shorter root; the elder or lower part rotting off in proportion as the upper is generated out of the stalk. Thus, in brownwort, the basis of the stalk, sinking down by degrees till it is hid under the ground, becomes the upper part of the root; and, continuing still to sink, the next year becomes the lower part, and the following year rots away. This is exactly what obtains in bulbous roots, as well as in the far greater number of other herbaceous perennials; as arum, valerian, tansy, samphire, primrose, wood-sorrel, iris, and others. The immediate visible cause of this descent is the string-roots which this kind of trunks frequently

put forth; which, descending themselves directly into the ground, serve like so many ropes for pulling the trunk after them. Hence the tuberous roots of iris are sometimes observed to re-ascend a little upon the rotting or fading away of the string-roots which hang at them. In bulbous roots where the stalk and former leaves of the plant are sunk below, and formed into what is called the bulb, or wintering of the future vegetable, the radicles or small fibres that hang from the bulb, are to be considered as the root; that is, the part which furnishes nourishment to the plant: the several rinds and shells, of which the bulb chiefly consists, successively perish, and shrink up into so many dry skins, betwixt which, and in their centre, are formed other leaves and shells, and thus the bulb is perpetuated. What has been said of the descent of roots by the sinking of the stalk, is further confirmed by the appearance of certain roots; as of valerian, plantago major and devil's bit, in which the lower part appears bitten or chopped off. In these the lower part rotting off as the upper descends, the living remainder becomes stumped, or seems bitten. All bulbous roots, says Dr. Grew, in his anatomy of plants, may be considered as hermaphrodite roots, or root and trunk both together: for the radicles only are absolute roots; the bulb actually containing those parts which springing up make the body or leaves of the plant; so that it may be regarded as a large bud under ground. Bulbous roots are said to be solid, when composed of one uniform lump of matter; tunicated, when formed of multitudes of coats surrounding one another; squamose, when composed of, or covered with, lesser flakes; duplicate, when there are only two to each plant; and aggregate, when there is a congeries of such roots to each plant.

BULBINE, a synonyme of the anthericum.

BULBOCASTANUM. See **BUNUM**.

BULBOCODIUM, mountain saffron, a genus of the monogynia order, and hexandria class of plants; natural order ninth; spathaceæ: cor. funnel-shaped, and hexapetalous, with the heels narrow, supporting the stamina. There is but one species, which grows naturally. It has a small bulbous root, which sends forth a few long narrow leaves, something like those of saffron, but narrower.

BULBOSUS, from *bulba*, a bulb, bulbous; applied in anatomy to soft parts which are naturally enlarged, as the bulbous part of the urethra.

BULBUS VOMITORIUS, in the materia medica, the name used for the root of the muscari.

BULCARD, an English name for the galectia, or *alauda non cristata*, of Rondeletius; a small sea-fish caught among the rocks on the Cornish and other shores.

BULEF, in botany, a name for the willow.

BULEPHORUS, an officer in the court of the eastern emperors, called also *summæ rei rationalis*.

BULEUTÆ, in Grecian antiquity, were magistrates answering to the *decuriones* among the Romans. See **DECURIO**.

BULLFINCH, in ornithology. See **LOXIA**.

BULGA, in old records, a budget; a mail.

BULGAR, a mountain of Nætolia, on the coast of Caramania.

BULGARIA, a small province of Turkey, in Europe, bounded on the north by Walachia, on the east by the Black Sea, on the south by Romania or Rum-ili, and on the west by Servia. It is very narrow, but 325 miles long on the side of the Danube, from Servia till it falls into the Black Sea. It is divided into four sanjaks; Byden, or Vidin, Sophia, Nicopolis, and Silistria. The chief towns are of the same names. The Bulgarians anciently inhabited the plains of Sarmatia that extended along the banks of the Volga. Thence they migrated, about the middle of the seventh century, in quest of new settlements. A large body of them passed the Danube, and took possession of the country adjacent to the western coast of the Euxine Sea. Several attempts were made by the Romans to dispossess and extirpate them; but they defended themselves with equal resolution and success. Constantine III. being defeated and intimidated, concluded an ignominious peace with them, A.D. 678, and purchased their friendship by the payment of an annual tribute. Justinian II. refused to comply with these dishonorable terms, and invaded their territories, A.D. 687; but he was defeated, and constrained to renew the treaty. War was carried on, almost without interruption, between them and the eastern emperors, for several centuries. After a long and doubtful struggle, the Romans prevailed; and the emperor Basil III. reduced Bulgaria to the form of a province, A.D. 1019. From this time the Bulgarians remained in subjection, and were governed by Roman dukes, until the reign of Isaac Angelus, when they revolted, A.D. 1186. Some time after, Stephen IV. king of Hungary, having defeated the Bulgarians, obliged them to acknowledge him as their sovereign. His successors were styled kings of Hungary and Bulgaria; and this title was transmitted, with the kingdom of Hungary, to the house of Austria. By the aid of the eastern emperors they threw off the Hungarian yoke; and, in return, they assisted their ally in an attempt to recover Adrianople, A.D. 1369. Provoked by this combination, Amurath invaded their country; and Bajazet, his successor, completed the conquest of it, A.D. 1396. Bulgaria still remains a province of the Ottoman empire. The inhabitants are Christians, but so extremely ignorant, that they seem to know nothing of Christianity, but baptism and fasting.

BULGARIAN LANGUAGE, the same with the **SLAVONIC**, which see.

BULGE, *v.* Goth. *bulga*; Swed. *bulgja*; Sax. *bulg*, a bladder. It was originally written *bilge*; *bilge* was the lower part of the ship, where it swelled out. To *bulge* is to jut out, to swell out, to burst from inward pressure, as a bladder; applied to the cause of a ship's foundering at sea, from being over-filled with water; to leak from outward fracture.

Thrice round the ship was tost,
Then *bulged* at once, and in the deep was lost.

Dryden.

The side, or part of the side of a wall, or any timber that *bulges* from its bottom or foundation, is said to batter, or hang over the foundation.

Moxon's Mechanical Exercises.

BULIMY, *n. s.* Βελιμία, from βας an ox, and λιμος hunger. An enormous appetite, attended with fainting and coldness of the extremities.

BULIMY is also called fames canina, canine appetite. See MEDICINE, Index.

BULITIOS, or BULITHUS, a stone found in the gall-bladder, kidneys, or urinary bladder of an ox. See BEZOAR.

BULK', *n.* } Goth. *bulke*; Swed. *bol*; *bol*;
BULK'HEAD, *n.* } Belg. *bulke*, *buik*; Span.
BULK'INESS, *n.* } *bulge*, from Goth. *bol*. Large,
BULKY, *adj.* } massive; magnitude, quantity; the gross, the majority; the main fabric; of great size. Bulkhead is a partition made across a ship with boards, whereby one part is divided from another.

The sweet and quiet sleep that wearied limbs oppress,
Beguile the night in diet thin, and feasts of none excess:

But waker lie the rich; whose lively heat with rest
Their charged bulks with change of meats cannot so soon digest.

He raised a sigh so piteous and profound,
That it did seem to shatter all his bulk,
And end his being. *Shakespeare.*
Here stand behind this bulk. Straight will he come:

Wear thy good rapier bare, and put it home. *Id.*

The Spaniards and Portuguese have ships of great bulk; but fitter for the merchant than the man of war, for burden than for battle. *Raleigh.*

There our sick ships, unrigged, in summer lay,
Like moulting fowl a weak and easy prey;
For whose strong bulk earth scarce could timber find,
The ocean water, or the heavens wind. *Marvell.*

But crowded on with so much haste,
Until they had blocked the passage fast,
And barricaded it with haunches
Of outward men, and bulks and paunches.

Butler's Hudibras.
Things, or objects, cannot enter into the mind as they subsist in themselves, and by their own natural bulk pass into the apprehension; but they are taken in by their ideas. *South.*

Latreus, the bulkiest of the double race,
Whom the spoiled arms of slain Halesus grace.

Dryden.
Wheat, or any other grain, cannot serve instead of money, because of its bulkiness, and change of its quantity. *Locke.*

Change in property, through the bulk of a nation, makes slow marches, and its due power always attends it. *Swift.*

Four steeds that spurn the rein, as swift as shy,
Hurl the dark bulk along, scarce seen in dashing by.

Byron.
BULK OF A SHIP, the whole content in the hold for the stowage of goods.

BULKH. See BALKH.
BULKHEAD AFORE, the partition between the forecabin and the gratings in the head.

BULL (George), bishop of St. David's, was born at Wells in 1634, and educated at Exeter College, Oxford. His first benefice was that of St. George's, near Bristol; whence he rose successively to be rector of Suddington in Gloucestershire, prebendary of Gloucester, archdeacon of Llandaff, and, in 1705, bishop of St. David's. In the time of Cromwell he adhered steadily to the church of England; and in the reign of

James II. preached very strenuously against the errors of popery. He wrote, 1. A Defence of the Nicene Faith. 2. Apostolical Harmony. 3. Primitive Apostolical Tradition; and other works. He died in 1709.

BULL (John), a celebrated musician and composer, was born in Somersetshire about A.D. 1563, and was of the Somerset family. He was educated under Blitheman. In 1586 he was admitted at Oxford bachelor of music, having practised in that faculty fourteen years; and in 1592 was created doctor in the university of Cambridge. In 1591 he was appointed organist of the queen's chapel. Dr. Bull was the first Gresham professor of music, and was recommended to that station by queen Elizabeth. But however skilful he was in his profession, he was not able to read his lectures in Latin; and therefore, by a special provision, made A.D. 1597, his lectures were permitted to be in English. In 1601 he went abroad for the recovery of his health. Dr. Ward, in his lives of the Gresham professors, states that, upon the death of Elizabeth, he became chief organist to king James; and in 1613 quitted England to reside in the Netherlands, where he was admitted into the service of the archduke. Wood says, that Dr. Bull died at Hamburg; others say at Lubeck. The only works of Bull in print, are lessons in the Parthenia, or the Maidenhead of the first Music that ever was printed for the Virginals. An anthem of his is to be found in Bernard's Collection of Church Music. Dr. Ward has given a long list of compositions of Dr. Bull in MS. in the collection of the late Dr. Pepusch, by which it appears that he was equally excellent in vocal and instrumental harmony. He also possessed great power of execution on the harpsichord. His lessons, in the estimation of Dr. Pepusch, were superior, not only for harmony and contrivance, but for air and modulation, to those of Couperin, Scarlatti, and other modern composers.

BULL', in composition, generally notes the large size of any thing, as bull-head, bulrush, bull-trout; and is therefore only an augmentative syllable, without much reference to its original signification.

And, Falstaff, you carried your guts away as nimbly and roared for mercy, and still ran and roared, as ever I heard a bull-calf. *Shakespeare.*

There is in Northumberland a trout, called a bull-trout, of a much greater length and bigness than any in these southern parts. *Walton.*

These fulminations from the Vatican were turned into ridicule; and, as they were called bull-beggars, they were used as words of scorn and contempt.

Ayliffe.
BULL', } Lat. *bull*; Ital. *bolla*; Fr.
BULL'ARY, } *bulle*, signifying originally a seal;
BULL'ISH, } but, when applied to a mandate
BULL'IST, } of the pope, supposed to be
BULL'ETIN. } βουλῆ, counsel. Bulletin is a diminutive of bull.

Min holy pardon may you all wanie,
So that ye offre nobles or starlinges,
Or elles silver broches, spones, ringes,
Boweth your hed under this holy bulle.

Chaucer.

Bulles of popes, and of cardinals,
Of patriarches, and bishops, I shewe,
And in Latin I speke a wordes fewe.

Id. Canterbury Tales.

A *bull* is letters called apostolick by the canonists, strengthened with a leaden seal, and containing in them the decrees and commandments of the pope or bishop of Rome.

Ayliffe.

It was not till after a fresh *bull* of Leo's had declared how inflexible the court of Rome was in the point of abuses.

Atterbury.

BULL', Irish *bul*; phrase or fashion, may be cognate with Welsh *bruu*; peculiar. An equivocal expression, a blunder, a contradiction.

I confess it is what the English call a *bull*, in the expression, though the sense be manifest enough.

Pope's Letters.

BULL', *n.* } Sans. *bual*; Hind. *buel*;
BULL'HAIING, } Per. *bahul*; Ara. *ba*, *bukal*,
BULL'BEEF, } bakar; Ba: Lat. *bubalus*;
BULL'LOCK. } Sax. and Belg. *bull*; Welsh
bual; Gothi. *bu*, *bal*; Swed. *bal*, signified properly farming cattle, including oxen. Properly the male of black cattle; the husband of the cow. Met. a fierce, violent, and powerful enemy. One of the twelve signs of the zodiac.

Many *bulls* have compassed me: strong *bulls* of Bashan have beset me round.

Psalms.

Whan that Phoebus doth his bright bemies spread
Right in the white *bole*; right so it betidde,
As I shall singe, on Mayes day the thridde.

Chaucer's Troilus and Creseide.

A gentlewoman, Sir, and a kinswoman of my master's.—Even such kin as the parish heifers are to the town *bull*.

Shakspeare.

Why, that's spoken like an honest drover: so they sell *bullocks*.

Id.

They want their porridge and their fat *bull-beeces*.

Id.

Bulls are more crisp upon the forehead than cows.

Bacon.

— that when they see
Law, can discover sin, but not remove,
Save by those shadowy expiations weak,
The blood of *bulls* and goats, they may conclude
Some blood more precious must be paid for man.

Milton.

Who made the balance, or whence came
The *bull*, the lion, and the ram? *Butler's Hudibras.*

What am I the wiser for knowing that Trajan was
in the fifth year of his tribuneship, when he entertained the people with a horse-race or *bull-baiting*?

Addison.

Drops follow drops, the clouds on clouds arise,
And carnage clogs their hands, and darkness fills their eyes.

As when a slaughtered *bull's* yet reeking hide
Strained with full force, and tugged from side to side,
The brawny carriers stretch. *Pope's Homer's Iliad.*

At last from Aries rolls the bounteous sun,

And the bright *Bull* receives him. *Thomson.*

The dew-lapped *bull* now chafes along the plain,
While burning love ferments in every vein;
His well-armed front against his rival aims,
And by the dint of war his mistress claims. *Gay.*

On foams the *bull*, but not unsated he goes,
Streams from his flank the crimson torrent clear;
He flies, he wheels, distracted with his throes;
Dart follows dart; lance, lance, loud bellowings
speak his woes. *Byron.*

BULL, in zoology. See *Bos*.

BULL AND BOAR. By the custom of some places, the parson is obliged to keep a bull and a boar for the use of his parishioners, in consideration of his having tithes of calves and pigs, &c.

BULL, signifying a letter, is applied to the letters of princes as well as of the popes. The bull, however, properly speaking, signifies the seal appended to the letter, and which has been made of gold, silver, and lead, as well as of wax. Thus:

BULL, GOLDEN, an edict, or imperial constitution, made by the emperor Charles IV. reputed to be the magna charta, or the fundamental law of the German empire. It is called golden, because it has a golden seal, tied with yellow and red cords of silk: upon one side is the emperor, represented sitting on his throne, and on the other the capitol of Rome. It is also called *Caroline*, from Charles IV. Till the publication of the golden bull, the form and ceremony of the election of an emperor were dubious and undetermined, and the number of electors not fixed. This edict regulated the functions, rights, privileges, and pre-eminences, of the electors. The original, which is in Latin, on vellum, is preserved at Frankfort. This ordinance, containing thirty articles, was approved of by all the princes of the empire.

BULLS, LEADEN, were sent by the emperors of Constantinople to despots, patriarchs, and princes; and were also used by the grandes of the imperial court, as well as by the kings of France, Sicily, &c. and by bishops, patriarchs, and popes; and on one side had the name of the pope or bishop inscribed. Polydore Virgil makes pope Stephen III. the first who used leaden bulls, about 772. The latter popes, besides their own names, strike the figures of St. Peter and St. Paul on their bulls; a practice first introduced by pope Paschal II.

BULLS OF THE POPE are despatched by order of his holiness, from the Roman chancery, and sealed with lead, being written on parchment, by which they are partly distinguished from briefs. See *BRIEF*. The pope's bull is a kind of apostolical rescript, or edict; and is chiefly used in matters of justice or grace. If the former be the intention of the bull, the lead is hung by a hempen, if the latter, by a silken thread. This lead is impressed on one side with the heads of St. Peter and St. Paul; and on the other with the name of the pope, and the year of his pontificate. The bull is written in a round Gothic letter. These instruments, besides the lead hanging to them, have generally a cross, with some text of Scripture, or religious motto, about it. They are granted for the consecration of bishops, the promotion to benefices, and the celebration of jubilees, &c. Bull in *canà Domini*, is a particular bull read every year, on the day of the Lord's supper, or Maunday Thursday, in the pope's presence, containing excommunications and anathemas against heretics, and all who disturb or oppose the jurisdiction of the holy see. After the reading of the bull, the pope throws down a burning torch, to denote the thunder of this anathema.

BULLS, SILVER, were not in so frequent use, though instances of them might be produced.

BULLS, WAXEN, are said to have been first brought into England by the Normans. They were in frequent use among the Greek emperors, who thus sealed letters to their wives, mothers, and sons. Of these there were two sorts, viz. red and green.

BULLA, in antiquity, a kind of ornament much in use among the ancient Romans. Whitaker is of opinion, that the bullæ were originally formed of leather among all ranks of people; and it is certain that they continued so to the last among the commonality. He also imagines that at first the bulla was intended as an amulet, rather than an ornament; as a proof of which, he tells us, that the bullæ were frequently impressed with the figure of the sexual parts. It is universally asserted by the critics, that the bullæ were made hollow for the reception of an amulet; but this Whitaker contradicts, from the figure of a golden one found at Manchester, which had no aperture whereby an amulet could have been introduced. Pliny refers the original of the bullæ to the elder Tarquin, who gave one with the prætexta to his son, because, at the age of fourteen, he had, with his own hand, killed an enemy; and in imitation of him it was afterwards assumed by other patricians. Others affirm that the bulla was given by that king to the sons of all the patricians who had borne civil offices. Lastly, others allege that Romulus first introduced the bulla, and gave it to Tullus Hostilius, the first child born of the rape of the Sabines. As to the form of the bullæ, they were originally made in the shape of hearts, though they did not always retain that form. As the wealth of the state and the riches of individuals increased, the young patrician distinguished himself by a bulla of gold, while the plebeians wore the amulets of their ancestors. The figure of the heart then became so generally round, some even have the impression of an heart upon them, that there are not many of the original form to be found in the cabinets of the curious. The form is naturally varied from a complete circle to that of a segment; and this was the shape of the above-mentioned bulla found at Manchester. When the youths arrived at fifteen years of age, they hung up their bulla about the necks of their gods lares. The bullæ were also not only hung about the necks of young men, but even of horses. They were likewise sometimes hung upon statues, whence the phrase '*statuæ bullatæ*.' Bulla was also the denomination given to divers other metalline ornaments made after the same form; and in this sense bullæ seems to include all gold and silver ornaments of a roundish form, whether worn on the habits of men, the trappings of horses, or the like. Such were those decorations used by the ancients on their door and belts. The bullæ of doors were a kind of large headed nails fastened on the doors of the rich, and kept bright with great care. The doors of temples were sometimes adorned with golden bullæ. Mr. Baudelot takes the bullæ worn by soldiers on their belts to be something more than mere ornaments. They seem to have been considered as preservatives from dangers and diseases, and even means of acquiring glory, and other advantages. The like may perhaps be extended to the bullæ on

doors, which were probably placed there as a security to them from being broken or violated.

BULLA denoted also a table hung up in the public courts to distinguish which days were fasti, and which nefasti; answering in some measure to our calendar.

BULLA, or Dipper, in conchology, a genus belonging to the order of vermes testaceæ. It is an animal of the snail kind: the shell consists of one valve, convoluted, and without any prickles; the aperture is narrowish, oblong, longitudinal, and entire at the base; the columella is smooth and oblique. The species of this genus are, volva, ovum, spelta, birostris, gibbosa, verrucosa, aperta, naucum, ampulla, hydatis, physis, lignaria, ficus, amplustra, canaliculata, rapa, fontinalis, conoidea, turrita, hypnorum, terebellum, gelatinosa, virginea, cyprea, strigata, fasciata, exarata, striatula, ambigua, bifasciata, achatina, zebra, ovata, hyalina, velum, ferruginosa, cylindrica, vesica, voluta, oliva, purpurea, dominicensis, solida, spreta, scabra, steropusculum, soluta, akera, carnea, and truncata.

BULLA, in medicine, a clear vesicle or blister, which arises from burns or scalds; or other causes.

BULLACE, *n. s.* A wild sour plum.

Medlers, plommes, peres, chesteines,
Cherise of which many one faîne is
Notes, and aleis, and bolas.

Chaucer's Romant of the Rose.

In October, and the beginning of November, come services, medlars, bullaces; roses cut or removed, to come late; hollyoaks, and such like. *Bacon.*

BULLACE, in botany. See **CHRYSOPHYLLUM** and **PRUNUS**.

BULLARY, bullarium, a collection of papal bulls. A general bullary of all the papal constitutions, from Gregory VII. to Sixtus V., was compiled by order of pope Sixtus V. in 1586; since which has been published a great bullary by Laert. Cherubin, containing the bulls of all the popes from Leo in 440, to Paul V. in 1559; since continued by Ang. Cherubin to 1644, and by Ang. a Lantusea, and Jo. Paulus to 1676; and lastly, by an anonymous editor, to the time of Benedict XIII., under the title of Bullarium Magnum Romanum. We have the same digested in a new method by Bouchardus: a commentary on it begun by Vinc. Petra, and a summary of it by Novarius.

BULLATA, in conchology, a species of voluta; shape cylindrical, reddish, with somewhat livid belts; spire obtuse; pillar-lip with four plaits within; aperture effuse. Found in the Indian seas.

BULLATED, hubbling; boiling.

BULLATUS, a species of solen; shape rotund, and striated slightly; anterior part of the shell retained open by the crenatures with which it is beset. This sort inhabits the American seas. Also a species of conus, the shell of which is yellow, clouded with white.

BULL-BATING, the inhuman and unmanly sport of setting bull-dogs on a bull, who is tied to a stake, with the points of his horns muffled; thus depriving him of the use of his natural weapons of defence, and then exposing him to be torn to death for the mere amusement of those

who take a delight only in cruelty. The first bull-bait in this country is said to have taken place at Stamford in 1209. The introduction of it was as follows:—‘William, earl Warren, lord of this town, standing upon the walls of the castle, saw two bulls fighting for a cow in the castle meadow, till all the butchers’ dogs pursued one of the bulls, maddened with noise and multitude, clean through the town. This sight so pleased the earl, that he gave the castle meadow, where the bull’s duel began, for a common to the butchers of the town, after the first grass was mowed, on condition that they should find a mad bull, the day six weeks before Christmas-day, for the continuance of that sport for ever.’

BULL-DOG, *n. s.* From bull and dog. A dog of a particular form, remarkable for his courage, and the savage pertinacity with which he provokes and continues the fight. When he has once fastened his bite on his antagonist, he cannot be taken off without much difficulty. He is a species of mastiff, on a smaller scale, with a somewhat flatter snout, a more ferocious aspect, pendulous lips, and a short thick neck. He is used in baiting the bull; and this species is so peculiar to Britain, that they are said to degenerate when they are carried to other countries.

All the harmless part of him is that of a *bull-dog*; they are tame no longer than they are not offended.

Addison.

BULLEN (Anne). See **BOLEYN**.

BULLENGER, in old statutes, a boat or a small ship.

BULLERS BUCHAN, THE POT OF, or the BOILERS OF BUCHAN, a large oval cavity in the rocks on the coast of Aberdeenshire, 150 feet deep, round which there is a foot-path. Boats sail into it from the sea, under a natural arch, resembling a large Gothic window. Near this, there is a vast insulated rock, divided by a narrow and very deep chasm from the land. About the middle of this rock, many feet above the level of the water, there is a large triangular aperture, through which the waves, when agitated, rush with tremendous noise.

BULLET, *n. s.* Fr. *boulte*; Goth. *boll*; Arm. *bolot*. See **BALL** and **BOWL**. A round ball of metal, usually shot out of guns.

As when the devilish iron engine, wrought
In deepest hell, and framed by furies skill,
With windy nitre and quick sulphur freight,
And rammed with *bullet* round, ordained to kill.

Spenser.

Giaffer, their leader, desperately fighting amongst
the foremost of the janizaries, was at once shot with
two *bullets*, and slain.

Knolles.

And as the built, so different is the fight;
Their mounting shot is on our sails designed;

Deep in their hulls our deadly *bullets* light,
And through the yielding planks a passage find.

Dryden.

Not even

A guard in sight; they wisely keep below,
Sheltered by the grey parapet, from some
Stray *bullet* of our languenets, who might
Practise in the cool twilight.

Byron. Deformed Transformed.

BULLET-BORE is a steel shank, having a globe at one end, wherewith to bore the inside of a bullet-mould clean, of the size intended.

BULLET IRON, a denomination given by some to Spanish or Swedish bars of iron.

BULLET-MOULDS, iron moulds for casting bullets. They consist of two concave hemispheres, with a handle whereby to hold them; and between them is a hole, called the gate, to pour in the melted metal. The chaps or hemispheres of bullet-moulds are first punched, being blood-red hot, with a round ended punch, of the shape and nearly of the size of the intended bullets. To cleanse the insides a bullet-bore is used.

BULLEYN (William), a learned physician and botanist, born in the Isle of Ely, in the former part of the reign of Henry VIII., and educated at Cambridge. He travelled through various parts of England, Scotland, and Germany, chiefly with an intention to improve his knowledge in botany. In the reign of Edward VI., or queen Mary, Mr. Bulleyn appears, from his remarks on the natural productions of that country, to have resided at Norwich, or near it, and to have spent some time at Bloxhall in Suffolk: but he afterwards removed into the north, and settled at Durham, where he practised physic with reputation. His great patron was Sir Thomas Hilton, knight baron of Hilton, who was governor of Teignmouth castle in the reign of Philip and Mary. In 1560 he came to London, and, soon after his arrival, was accused by William Hilton of Bidick, of having murdered his brother Sir Thomas, our author’s friend and patron. He was arraigned before the duke of Norfolk, and honorably acquitted. This Hilton afterwards hired some villains to assassinate the doctor; but the attempt proving ineffectual, he had him arrested on an action for debt, and he remained for a long time in prison. During this confinement, Dr. Bulleyn composed several of those works which raised his reputation as a medical writer. He died in January, 1576, and was buried in St. Giles’s, Cripplegate, in the same grave with his brother the divine, who died thirteen years before, and in which John Fox, the martyrologist, was interred eleven years after. Dr. Bulleyn appears from his writings to have been well acquainted with the works of the ancient Greek, Roman, and Arabian physicians. He was a man of genius and fertile imagination, and his works are by no means barren of entertainment, though his practice is obsolete. He wrote, 1, *The Government of Health*, 1559, 8vo. 2. *A Regimen against the Pleurisy*, 8vo. London, 1562, &c.

BULL-FEAST. See **BULL-FIGHTING**.

BULL-FIGHTING, a sport or exercise much in use among the Spaniards and Portuguese, consisting in a kind of combat of a cavalier or torreadore against a wild bull, either on foot or on horseback, by riding at him with a lance. The Spaniards have bull-fights in honor of St. John, the Virgin Mary, &c. This sport the Spaniards received from the Moors, among whom it was celebrated with great eclat. The practice was prohibited by pope Pius V., under pain of excommunication incurred ipso facto. But succeeding popes have granted several miti-

gations in behalf of the torreadores. The following account of a bull-feast in the Coliseum at Rome, in 1332, extracted from Muratori by Mr. Gibbon, may give some idea of the early pomp, ceremonies, and danger, which attended these exhibitions:—‘A general proclamation, as far as Rimini and Ravenna, invited the nobles to exercise their skill and courage in this perilous adventure. The Roman ladies were marshalled in three squadrons, and seated in three balconies, which on this day (the 3d Sept.) were lined with scarlet cloth. The fair Jacova di Rovere led the matrons from beyond the Tiber, a pure and native race, who still represent the features and character of antiquity. The remainder of the city was divided between the Colonna and Ursini families: the two factions were proud of the number and beauty of their female bands: the charms of Savella Ursini are mentioned with praise; and the Colonna regretted the absence of the youngest of their house, who had sprained her ankle in the garden of Nero’s tower. The lots of the champions were drawn by a respectable citizen; and they descended into the arena or pit, to encounter the wild bulls, on foot, as it should seem, with a single spear. Amidst the crowd, our annalist has selected the names, colors, and devices, of twenty of the most conspicuous knights. . . Several of the names are the most illustrious of Rome and the ecclesiastical state; Malatesta, Polenta, della Valle, Cafarello, Savelli, Cappoccio, Conti, Annibaldi, Altieri, Corsi. The colors were adapted to their taste and situation; and the devices, expressive of hope or despair, breathed the spirit of gallantry and arms. ‘I am alone, like the youngest of the Horatii,’ the confidence of an intrepid stranger: ‘I live disconsolate,’ a weeping widower: ‘I burn under the ashes,’ a discreet lover: ‘I adore Lavinia or Lucretia,’ the ambiguous declaration of a modern passion: ‘My faith is as pure,’ the motto of a white livery: ‘Who is stronger than myself?’ of a lion’s hide: ‘If I am drowned in blood, what a pleasant death!’ the wish of ferocious courage. The pride or prudence of the Ursini restrained them from the field, which was occupied by three of their hereditary rivals, whose inscriptions denoted the lofty greatness of the Colonna name: ‘Though sad, I am strong:’ ‘Strong as I am great:’ ‘If I fall (addressing himself to the spectators) you fall with me:’—intimating (says the writer), that while the other families were the subjects of the Vatican, they alone were the supporters of the Capitol. The combats of the amphitheatre were very dangerous and bloody. Every champion successively encountered a wild bull; and the victory may be ascribed to the quadrupeds, since no more than eleven were left on the field, with the loss of nine wounded and eighteen killed on the side of their adversaries. Some of the noblest families might mourn; but the pomp of the funerals, in the churches of St. John Lateran, and St. Maria Maggiore, afforded a second holiday to the people. It was not in such conflicts that the blood of the Romans should have been shed; yet, in blaming their rashness, we are compelled to applaud their gallantry; and the volunteers, who display their magnificence, and risk their

lives under the balconies of the fair, excite a more generous sympathy than the thousands of captives and malefactors who were reluctantly dragged to the scene of slaughter.’ We extract the description of a modern Spanish bull-fight, from the travels of a literary friend:—

‘In honor of Lord Wellington a bull-fight was exhibited at St. Mary’s, Cadiz, at which I attended. This diversion, peculiarly belonging to the Spanish nation, has fallen into disuse, and lately has been restricted by orders from the government, though under new regulations it is still sometimes permitted. The Plaza de Toros is a large amphitheatre, capable of holding 14,000 persons. On this occasion it was not full, and I suppose that not more than 10,000 people were present: The appearance of the assembly was striking, and a degree of interest was excited in every countenance, which, I should previously have thought, a much more important contest would scarcely have called forth. I entered the place at the moment when the first bull was killed, and horses, gayly decorated, were dragging him from the circle, amid the sounds of music, and the applauding shouts of the people.

‘Preparations were made for a fresh conflict: three men were posted behind each other, about ten yards asunder, mounted on small, but active horses, and armed with a spear about fifteen feet long; and five or six men on foot, dressed in scarlet cloaks, were placed in other parts of the arena. The gates were thrown open, and the bull rushed in. He made towards the first horseman, who received him on the point of his spear, and wounded him between the shoulders; this turned him, and he attacked the second horseman with great fury; but from the want either of dexterity in the rider, or agility in the animal, the horse was dreadfully gored in the body, and his bowels fell on the ground. The combatants were soon disentangled, and the bull attacked the third horseman, who received him like the first, and wounded him severely. He now became furious, and galloped round the circle; but either from the loss of blood, or the pain he endured, he was fearful of facing the horsemen; the men on foot then began to irritate him, by sticking small darts in his body, and, whenever he made a push at them, threw the cloak over his eyes, and with great dexterity avoided his thrust.

‘This irritation was continued some time, till the animal, streaming with blood, became exhausted. The matador, or principal actor, then made his appearance, armed with a small sword and cloak: he advanced towards the bull, which ran and pushed at him, but the man received the thrust on his cloak, and stepping nimbly aside, withheld his blow, because the animal did not present himself in the exact attitude which the matador required for despatching him with grace; he then made a second advance towards the animal, and, while he was in the act of pushing at him, plunged the sword up to the hilt between his shoulders; the bull ran a few paces, staggered, and dropped dead. The trumpets sounded a flourish; horses galloped in, were fastened to the carcass, and

the standard silver of such countries. According dragged it away, amid the applauding shouts of the spectators.

‘Six or seven other bulls were then in succession despatched in a similar manner, with only such variations as were occasioned by the different degrees of courage which the animals possessed. When the last bull was fighting, the matador so contrived it that he gave him the coup de grace immediately under the box in which Lord Wellington and the English party were seated. Before this operation, he addressed himself to his Lordship, and said, with much dignity, that he should kill that bull to the health of King George the Third, which was quickly performed. His Lordship threw him some money, after which the entertainment closed.

‘This bull-fight was represented to me as a very inferior exhibition, owing to the coolness of the weather, the bulls having much more courage during the intense heat of summer than at the present season. It is certainly a cruel amusement both to the bulls and to the horses, though attended with little danger to the men. One horse was destroyed, by having his belly lacerated: after he was wounded, and his bowels trailing on the ground, the rider continued the fight, and galloped round the circle, while the poor animal literally trampled on his own entrails at every step, a sight more disgusting than this can scarcely be conceived, and even the bull, though streaming with blood, had not nearly so repulsive an appearance. The men were secured from much danger by their own agility, by the dextrous application of their cloaks, when the animal charged them, and by the barriers placed round the circle, behind which they retired when pressed by the bull.

‘However repugnant this diversion may appear to every delicate and feeling mind, it is more frequented and admired by the ladies than by the gentlemen; they attend these exhibitions in their gayest dresses, applaud the address of the inhuman combatants, and feel the greatest solicitude at the different critical turns of the fight. Many of the young country gentlemen may trace their ruin to these spectacles, as decidedly as Englishmen of the same class may trace theirs to Newmarket. In fact, it is the great object which engages the attention of that description of men distinguished by the term Majos.’

BULL-FINCH, *n. s.* Rubicilla. A small bird that has neither song nor whistle of its own, yet is very apt to learn, if taught by the mouth.—See RUBICILLA.

The blackbird whistles from the thorny brake,
The mellow bull-finch answers from the groves.

Thomson.

BULL-FLY, *n. s.* } A species of fly.
BULL-BEE. }

BULL-FROG, in zoology. See RANA.

BULL-HEAD, *n. s.* From bull and head. In ichthyology, the name of a fish, sometimes called the miller's thumb. See ANGLING, and COTTUS.

BULLIALDUS (Ismael), an eminent astronomer, born at Houdon in France, in 1605. He

travelled in his youth for improvement; and afterwards published several works, among which are: *De Natura Lucis*; *Philolaus*; *Astronomia Philolaica*, *Opus Novum in quo Motus Planetarum per Novam et Veram Hypothesin Demonstrantur*; *Astronomiæ Philolaicæ Fundamenta Clarius Explicata et Asserta, Adversus Sethi Wardi Impugnationem*; *Delineis Spiralitris*, *Opus Novum ad Arithmeticum Infinitorum*, fol. &c. In 1661 he paid Hevelius a visit at Dantzic, for the sake of seeing his optical and astronomical apparatus. Afterwards he became a priest at Paris, and died there in 1694.

BULLIMONG, or **BULLIMONY**, a mixture of several sorts of grain, as oats, peas, and vetches, called also maslin or mong corn.

BULLINGER (Henry), born at Bremgarten, in Switzerland, in 1504, was an eminent Zuinglian minister, and a great supporter of the Reformation. He was educated first at Emmeric, and afterwards at Cologne, where he applied to the study of divinity and the canon law. In 1528 he accompanied Zuinglius to the disputation at Berne, and the following year was called to the ministry at his native place. The victory gained by the Romish cantons over the Protestants in 1531, obliged him to fly with his family to Zurich, where he was chosen pastor in the room of Zuinglius, who had fallen in that battle. He died in 1575. His works are numerous, and it is remarkable that his sermons were ordered to be read by the clergy of the church of England.

BULLION. *Fr. billon*; *Sp. billon*; *Ital. bollone*, from *Lat. bulla*, signified every kind of metal ornament worn by the people, which was collected by agents for the use of the mint. Something of the same kind seems to have occurred in Spain, where it was called *vellon*.

But for to tell the sumptuous array
Of that great chamber, should be labour lost;
For living wit, I wene cannot display
The roiall riches and exceeding cost
Of every pilour and of every post,
Which all of purest bullion framed were,
And with great perles and precious stones embost;
That the bright glister of their beam's cleare
Did sparkle forth great light, and glorious did appeare.
Spenser.

The balance of trade must of necessity be returned in coin or bullion. Bacon.

A second multitude,
With wondrous art, found out the massy ore,
Severing each kind, and scummed the bullion dross.
Milton.

In every vessel there is stowage for immense treasures, when the cargo is pure bullion. Addison.

BULLION. The term bullion is applied to the precious metals, either when smelted from the ore, and not perfectly refined, or when refined, and melted down in bars, or ingots; or any unwrought body of a certain degree of fineness. In order to render gold and silver fit for use, it is necessary to reduce and harden them by an alloy of some baser metal: and the quantity of this alloy is ascertained by the legislative regulations of different countries, so that the proportion of the one to the other may constitute

to the laws of England all sorts of wrought plate should be made in conformity to the legal standard: and the prices of standard gold and silver regulate the value of the bullion, consisting of ingots, bars, dust, or foreign specie; consequently, in order to ascertain the value of bullion, it is first assayed. See ASSAY, GOLD, and SILVER.

Silver as well as gold bullion is sometimes also denominated plate.

Silver and gold, whether coined or uncoined, though used for a common measure of other things, are no less in modern times a regular commodity of trade than wine, tobacco, or cloth; and may, in many cases, be exported to as much national advantage.

Bullion is alternately imported and exported, from this and every country of considerable commerce, for the purposes of assisting foreign trade; and in the same manner as the national coin circulates in every particular country, bullion may be considered as the money of the great mercantile republic.

Both are employed in facilitating exchanges, the one between different individuals of the same, the other between those of different nations, and bullion, by thus opening new and inexhaustible markets to all the commodities of Europe, gives occasion to new divisions of labor and improvements of art, which, in the narrow circle of the ancient commerce, must have remained for ages discovered or unknown.

According to Mr. Locke, gold and silver are the most solid and substantial part of the movable wealth of a nation; and to multiply these metals should, he thinks, on that account, be the great object of its political economy. Countries that have political connexions with foreign nations, and are obliged occasionally to carry on foreign wars, and to maintain fleets and armies in distant countries, to subsidize foreign princes, &c. are under a necessity of sending money in some form or other abroad; and therefore it has been said that in time of peace it should endeavour to accumulate gold and silver, that when occasion requires, it may possess the means of carrying on war. Upon these principles all the different nations of Europe formerly studied, though to little purpose, to accumulate gold and silver in their respective countries. Spain and Portugal, the proprietors of the principal mines which supplied Europe with those metals, either prohibited the exportation of them under the severest penalties, or subjected them to a considerable duty. The like prohibition seems anciently to have made a part of the policy of most other European nations. But, when those countries became commercial, the merchants found this extremely inconvenient, and remonstrated against it, as hurtful to trade.

The prohibition of exporting gold and silver was now therefore restricted in France and England to the coin of these respective countries. The exportation of foreign coin and bullion was made free; the first law for this purpose in England was passed 1663. In Holland, and in some other places the liberty was extended even to the coin of the country. A country that has no mines of its own, must

undoubtedly draw its gold and silver from foreign countries; and, on account of their small bulk and great value, they are as easily transported as obtained. When the quantity of gold and silver imported into any country exceeds the effectual demand, no vigilance of government can prevent their exportation. But the sanguinary laws of Spain and Portugal are not sufficient for keeping their gold and silver at home. And as they are easily transported from places where they abound, to those where they are wanted, their price does not admit of the same fluctuation with that of many other commodities, that are not so conveniently and speedily removed. The changes which take place in their value are generally slow, gradual, and uniform.

Instead of accumulating gold and silver, with a view to the augmentation of the real wealth of the country, Dr. Adam Smith (*Wealth of Nations*, vol. ii. p. 157.) recommends their being considered, under whatever form they exist, as utensils; and increasing the use for them, by increasing the consumable commodities, which are to be circulated, managed, and prepared by means of them, as the most effectual and most certain method of increasing their quantity, which will ever keep pace with the use to which they are applied; and beyond this no law he insists can ever prevent their being immediately sent out of the country. He adds, that it is not always necessary to accumulate gold and silver, in order to enable a country to carry on foreign wars, and to maintain fleets and armies in distant countries. Fleets and armies are maintained, not with gold and silver, but with consumable goods; and the nation which, from the annual produce of its domestic industry, from the annual revenue arising out of its lands, labor, and consumable stock, has wherewithal to purchase those consumable goods in distant countries, can maintain foreign wars there.

Such has been the doctrine with regard to bullion which has been expressed in modern times, and the subject has derived more importance of late from its obvious connexion with the great questions of our PAPER and GOLD CURRENCY.

No topic has been more elaborately discussed in parliament or has been the subject of greater consideration amongst both practical and speculative political economists and merchants. In February, 1810, Mr. Horner obtained what was called his Bullion Committee, or a Committee of the House of Commons to enquire into the cause of the high price of gold bullion, and to take into consideration the state of the circulating medium of exchanges. This committee was named with considerable impartiality, and was engaged during two months in the examination of evidence; which consisted chiefly of the testimony of bullion dealers, merchants, bankers, and bank directors. The leading members in the committee, next to Mr. Horner, are understood to have been Mr. Huskisson, and Mr. Henry Thornton.

As complete a practical view as we can give of the important topics connected with these questions will arise out of an epitome of the Report that was now published.

It begins with a statement of the extraordinary

rise of bullion in our market, and of the endeavours of the committee to ascertain what cause, in the opinion of mercantile men, had led to this irregularity. To the notion entertained by several witnesses, that it was owing to a rise of gold on the continent, the committee could by no means subscribe. The sudden rise in our foreign exchange formed the next topic of enquiry; and here, as in the other point, the committee differ from the opinions of practical men, the majority of whom attributed it to the foreign expenses of government, and to the excess of our imports in 1809 above our exports. Two merchants, however, if they did not go so far as the committee, in declaring a depreciation of our bank-notes, were of opinion, that their nonconvertibility into cash had been materially instrumental in preventing a re-establishment of the rate of exchange. The committee, in arguing that a considerable part of the inequality of the exchange must be owing to a fall in our paper currency, enter into a very instructive explanation of the distinction between real and nominal exchange; but they are less successful in an attempt to calculate the relative amount of our exports and imports for the year 1809.

The third topic of investigation, the enquiry into the rules of the bank in respect to their issues, gave rise to some anxious answers. The bank directors appear to have become by this time suspicious of the intentions of the committee, and fought hard to ward off (Evidence, p. 79 and 89,) some of their probing questions. The point on which they were chiefly at variance, was, whether the amount of their issues ought or ought not to be regulated by a reference to the price of bullion, and the condition of the foreign exchange. The committee contend for the affirmative, while the bank assert, that the validity of the bills presented to them for discount, should form almost the only subject of consideration. The bank also oppose the idea, that the irregular state of the exchange is owing, in any degree, to a degradation of their paper; an allegation which leads the committee into a series of arguments to show that depreciation has been known to exist in cases where the currency was, like that of the Bank of England, of undoubted character as to ultimate solvency. The early part of the history of the bank of England itself, the case of the Scotch banks in 1763, and the more recent example of the bank of Ireland in 1809, are all adduced in support of this position. The committee then conclude this part of the Report, with a mixture of praise and censure on the bank directors. Their conduct, in not attending to the price of bullion and state of exchange, is said to involve great practical errors; while their moderation in limiting the amount of their issues, is declared to entitle them to a continuance of the confidence so long reposed in them by the public. The fourth and last division of the Bullion Report, regards the progressive increase of our paper currency. After exhibiting a list of the annual quantity of bank of England notes in circulation since 1798, and commenting on the bank advances to government, as well as to the mercantile body for discounts, the committee are led into an enquiry into the circulation

of country banks. Here, from the scantiness of materials, the greatest caution was necessary; and from the want of it the committee came to various conclusions which have since proved fallacious. They sum up the Report by declaring the existence of an excess in our paper currency; by ascribing this excess to the absence of the salutary check of cash payments; by lamenting the evils attendant on depreciated currency; by dissuading the adoption of any indirect schemes to limit our paper circulation; and by recommending an act of parliament to resume cash payments within the space of two years.

Such was the fruit of the wide researches and close investigation of the ablest of our statesmen into this subject at a recent period. Strong efforts it is said were made by ministers, in the progress of the enquiry, to negative the proposition, that bank paper was understood to be depreciated, but in vain; the majority of the committee having made up their minds to an opposite conclusion: and the calamities that have since attended every branch of the paper system but too fully corroborate the truth of their opinion: but see CURRENCY.

BULLITION. Lat. *bullire, ebullire*; Fr. *bouillir*, to boil. See **BOIL**.

There is to be observed in these dissolutions, which will not easily incorporate, what the effects are, as the *bullition*, the precipitation to the bottom, the ejaculation towards the top, the suspension in the midst, and the like. *Bacon.*

BULLOCK. See **BOS**.

BULL'S EYE, in astronomy. See **ALDEBARAN**.

BULL'S EYE, a sort of small pulley, in the form of a ring, having a rope spliced round the outer edge of it, and a large hole in the middle for another rope to slide in. It is seldom used by English seamen.



BULL'-WEED, *n. s.* in botany, the same with **knap-weed**. See **CENTAUREA**.

BULL'-WORT, or **BISHOPS'-WEED**, *n. s.* Lat. *ammi*. A plant, of which there are two species, *sison ammi*, and *ammi majus*.

BULTERS, in fishing, strong lines used on the coast of Cornwall in the fishery of congers.

BULLY, *v. & n.* } Belg. *bulleman*. See **BULL**
BULLY'-BACK, } and **BUG**. Either from bull,
BULLY'-ING, *n.* } the animal, fierce, savage, and bellowing; or from the pope's bull, which is arrogant, blustering, and authoritative. Bully is a noisy blustering fellow, one who endeavours to inspire others with fear. To bully is to threaten, to domineer, to bluster, to inspire terror by insolence and vulgar noise, by the appearance of a courage foreign to his heart.

Mine host of the garter!—What says my *bully* rock? Speak scholarly and wisely. *Shakspeare.*

'Tis so ridiculous, but so true withal, A *bully* cannot sleep without a brawl. *Dryden.*
 A scolding hero is, at the worst, a more tolerable character than a *bully* in petticoats. *Addison.*

The little man is a *bully* in his nature, but, when he grows choleric, I confine him till his wrath is over. *Id.*

But when the *bully* with assuming face
 Cocks his broad hat, edged round with tarnished lace,
 Yield not the sway; defy his strutting pride
 And thrust him to the muddy kennel's side. *Gay.*

BULLY'-TREE, the English name of the *achras sapota*.

BUL'RUSH, the English name of the *scirpus lacustris*.

To make fine cages for the nightingale,
And baskets of *bulrushes*, was my wont. *Spenser*.
All my praises are but as a *bulrush* cast upon a
stream; they are born by the strength of the current.
Dryden.

BUL'WARK, *v. & n.* Goth. *bolwerk*; Swed. and Belg. *bolwerk*; either from *bol*, great, or Goth. *bol*, the trunk of a tree; Fr. *boulevard*; Ital. *bolvardo*, have Goth. *ward*, defence, instead of *wark*. To fortify, to secure. A bulwark is what is now called a bastion; generally a fortification; a skreen; a shelter.

The other five, five sondry ways he sett,
Against the five great *bulwarkes* of that pyle,
And unto each a *bulwarke* did arret,
T' assaile with open force or hidden guyle,
In hope thereof to win victorious spoile. *Spenser*.

Some making the wars their *bulwark*, that have be-
fore gored the gentle bosom of peace with pillage and
robbery. *Shakespeare*.

They oft repair
Their earthen *bulwarks* 'gainst the ocean flood. *Fairfax*.

And yet no *bulwarked* town, or distant coast,
Preserves the beauteous youth from being seen. *Addison*.

Our naval strength is a bulwark to the nation. *Id.*
Taking away needless *bulwarks*, divers were de-
molished upon the sea coasts. *Hayward*.

The unworthy successor of Julian shamefully sur-
rendered to the barbarians the important city of Nisi-
bis, the firmest bulwark of the provinces of the east.
Gibbon.

BUM, *v. & n.* } Belg. *bom*; Per. Swed.
BUM'BLE, } Welsh, and Irish, *bon*; Dutch
BUM'P. } *bommen*, *bombannen*. Its pri-
mary meaning is a noise which some things make
when fallen, or struck upon or against another;
it is also applied to the natural sounds made by
the bittern and the bee. From sound its mean-
ing has been transferred to bulk; thus bump
describes the swelling or bump which is pro-
duced by a blow; and bum the very ample sub-
stance on which we sit, more plainly called the
buttocks. It is probably contracted from bottom.

And as a bitore *bumbleth* in the mire,
She laid her mouth unto the water down. *Chaucer's Canterbury Tales*.

Troth, and your *bum* is the greatest thing about you,
so that in the beastliest sense you are Pompey the
great. *Shakespeare*.

It had upon its brow a *bump* as big as a young
cockrel's stone; a perilous knock, and it cried bitterly.
Id.

The wisest aunt telling the saddest tale,
Sometime for three-foot stool mistaketh me,
Then slip I from her *bum*, down topples she. *Id.*
This said, he gently raised the knight,
And set him on his *bum* upright. *Hudibras*.

So learned Taliacotius, from
The brawny part of porter's *bum*
Cut supplemental noses, which
Wou'd last as long as parent breech;
But when the date of nook was out,
Off dropt the sympathetic snout. *Id.*
From dusty shops neglected authors come,
Martyrs of pies and relics of the *bum*. *Dryden*.

Then to the water's brink she laid her head,
And as a bitour *bumps* within a reed,
To thee alone, O lake, she said — *Id.*
Not though his teeth are beaten out, his eyes
Hang by a string, in *bumps* his forehead rise. *Id.*

BUMALDA, in botany, a genus of the di-
gynia order, and pentandria class of plants:
CAL. five parted: COR. five-petalled; styles
villous; capsule two celled, and two-beaked.
One species only: a shrub of Japan.

BUMBAILIFF, *n. s.* This is a corruption
of bound bailiff, pronounced by gradual corrup-
tion *boun*, *bun*, *bun* bailiff. A bailiff of the
meanest kind; one that is employed in arrests.

Go, Sir Andrew, scout me for him at the corner of
the orchard, like a *bumbailiff*. *Shakespeare*.

BUM'BARD, *n. s.* Wrong written for BOM-
BARD, which see. A great gun; a black jack; a
leathern pitcher.

Yond same black cloud, yond huge one looks
Like a foul *bumbard*, that would shed his liquor. *Shakespeare*.

BUM'BAST, *n. s.* Falsely written for *bom-
bast*; *bombast* and *bombasine* being mentioned,
with great probability, by Junius, as coming from
boom a tree, and *sein* silk; the silk or cotton of a
tree. Mr. Steevens, with much more probability,
deduces them all from *bombycinus*. See BOM-
BAST.

We have received your letters full of love,
And, in our maiden council, rated them
As courtship, pleasant jest, and courtesy,
As *bumbast*, and as lining to the time. *Shakespeare*.

The usual *bumbast* of black bits sewed into ermine,
our English women are made to think very fine. *Grew*.

BUMELIA, a bastard bully-tree, in bo-
tany, a genus of the class pentandria, order
monogynia: CAL. perianth, five-leaved: COR.
five-cleft; nectary, five-leaved; drupe, seed
single. Twelve species, all shrubs and trees of
South America, or the West Indies.

BUMICILLI, a sect of Mahomedans in Egypt
and Barbary, who pretend to fight with devils,
and commonly appear in a fright and covered
with wounds and bruises. About the full moon
they counterfeit a combat in the presence of all
the people, which lasts for two or three hours,
and is performed with assagaiaes, or javelins, till
they fall down quite spent.

BUMKIN, or BOOMKIN, in sea language, is
a short boom or bar of timber, projecting from
each bow of a ship, to extend the lower edge of
the fore-sail to windward. It is secured by a
strong rope, which confines it to the ship's bow.

BUMM, a city of Persia, the capital, and
formerly a frontier town, of the province of
Kernan, situated in a plain in the vicinity of high
mountains. It is regarded as one of the strongest
towns in Persia, and has a very thick and high
mud wall, with six large bastions on each face,
exclusive of others more lofty at the corners.
A dry ditch, very deep and broad, surrounds the
walls. The only access to the town, which
stands on an eminence, is between the two
centre bastions, on the southern face. The cita-
del, also fortified by its own walls and towers,
occupies the highest part of the eminence, and

contains the governor's palace. This city has formerly been much larger, but its fountains are still celebrated as the finest in Persia, and the bazaar is tolerably large, and well supplied with provisions. The gardens of the neighbourhood are famous for pomegranates. The Afghans, when they invaded Persia in 1719, are said to have first settled this place. Since this period it has undergone many revolutions. Hitherto Looft Ali Khan, the last of the Zund dynasty, fled from the city of Kerman, and was treacherously seized in the year 1794, while in the act of mounting his horse to escape. Being sent to Mahomed Aga Khan, the king of Persia, he, with his own hands, put out Looft Ali's eyes, and afterwards ordered him to be strangled at Teheran. On the spot of his capture was raised a pyramid formed of 900 of the heads of his followers.

BUMPER, Belg. *bovboord*. Above the border or edge. A glass filled to the brim. Any place or thing over-filled.

Places his delight

All day in playing *bumpers*, and at night

Reels to the bawds.

Dryden's Juvenal.

He cherished his friend, and he relished a *bumper*; Yet one fault he had, and that one was a thumper.

Goldsmith's Retaliatio.

BUMP'KIN, } Perhaps from *boobykin* says
BUMP'KINLY, } Thomson. This word, says Johnson, is of uncertain etymology; Henshaw derives it from pumpkin, a kind of worthless gourd, or melon. This seems harsh; yet we use the word cabbage-head in the same sense. Bump is used amongst us for a knob, or lump: may not bumpkin be much the same with clodpate, loggerhead, block, and blockhead? An awkward heavy rustic; a country lout.

The poor *bumpkin*, that had never heard of such delights before, blessed herself at the change of her condition.

L'Estrange.

A heavy *bumpkin*, taught with daily care,
Can never dance three steps with a becoming air.

Dryden.

In his white cloak the magistrate appears;

The country *bumpkin* the same livery wears.

Id.

It was a favor to admit them to breeding; they might be ignorant *bumpkins* and clowns, if they pleased.

Locke.

He is a simple, blundering, and yet conceited fellow, who, aiming at description, and the rustick wonderful, gives an air of *bumpkinly* romance to all he tells.

Clarissa.

BUNCH, *v. & n.* } Goth. *bunds*; Dan. *bundt*;
BUN'CHY, } Swed. *bunt*; Swed. *banke*,
BUNCH'BACKED. } from Isl. *bunga*, to swell.
Thus, its first sense is a cluster, a knot tied together, a bundle; its next meaning is a hump, or boss; a hard lump, or knob. To tie, to bind as in a cluster; to swell out, to grow out in protuberances.

They will carry their treasures upon the *bunches* of camels, to a people that shall not profit them.

Isaiah, xxx. 6.

His locks, like faded leaves, fallen to ground,

Knotted with blood in *bunches* rudely ran;

And his sweet lips, on which before that stound

The bud of youth to blossome faire began,

Spoiled of their rosy red, were waxen pale and wan.

Spenser.

Upon the top of all his loftie crest

A *bunch* of heares discoloured diversely,

With sprinkled pearle and gold full richly drest,

Did shake, and seemed to daunce for iollity. *Id.*

And on his arms a *bunch* of keys he bore.

Id. Faerie Queene.

The day shall come, that thou shalt wish for me,

To help thee curse this poisonous *bunchbacked* toad.

Shakespeare.

All! I know not what ye call all; but if I fought not with fifty of them, I am a *bunch* of raddish. *Id.*

Vines, with clustering *bunches* growing. *Id.*

Titian said that he knew no better rule for the distribution of the lights and shadows, than his observations drawn from a *bunch* of grapes. *Id.*

For thee, large *bunches* load the bending vine,

And the last blessings of the year are thine. *Dryden.*

Ancient Janus, with his double face

And *bunch* of keys, the porter of the place. *Id.*

The mother's *bunch* of keys, or any thing they cannot hurt themselves with, serve to divert little children. *Locke.*

He felt the ground, which he had wont to find even and soft, to be grown hard, with little round balls or *bunches*, like hard boiled eggs. *Boyle.*

It has the resemblance of a champignon before it is opened, *bunching* out into a large round knob at one end. *Woodward.*

He is more especially distinguished from other birds, by his *bunchy* tail, and the shortness of his legs. *Grew.*

BUNCOMB, a county of the United States, in North Carolina, situated in Morgan district. It is the largest and most westerly county in that state; and is bounded on the east by those of Rutherford and Burke; on the south by South Carolina, and on the north and west by the New State of Tennessee. This county having been formed from those of Burke and Rutherford, since the general census was taken, its present population is not known. It is hilly, the Blue Mountains passing through it to South Carolina. Its principal rivers are the Catawba, Pacolet, and Broad River.

BUNDELCUND, or **BANDELKHAND**, a Hindostan district in the province of Allahabad, lying principally between 24° and 26° of north latitude, between the rivers Cane and Betwah, and occupying an extent of about 11,000 square miles. In general, this country is mountainous and badly cultivated; the face of it being a heavy close jungle, abounding with tigers. The hills are covered with small coppice wood, there being few timber trees of a large size; in the neighbourhood of Adjyghur, the whole of the Ghauts, and almost every hill is a table land, and the country one of the strongest in the world, the hills being from their great height and steepness, natural fortresses. The soil in some places is rich, and produces a number of teak trees, which are, however, of stunted growth.

The diamond mines of Pannah are in this district; in the time of Acber they were valued at eight lacks of rupees, and produced £100,000 per annum, but are not now so productive; in 1750 they were not worth more than £50,000 per annum: their value since has never been regularly ascertained. The chief towns besides Pannat, late the residence of an independent

rajah, are Chatterpoor, Teary, and Jyghtpoor, Callinjer, Jhanse, Dulteen, and Bejaour. The Pannah mines are situated in a range of hills called Bund-Abill by the natives, extending above twenty miles in length by between two and three in breadth, and are said to be partitioned into twenty-one divisions. Of these, the mines of Muddarajepoor, Rajepoor, Kimmerah, and Guddaseah, contain the finest diamonds; one dug from the last has been reputed the largest now known.

The inhabitants, called Bondelas, are proud, brave, and warlike, ever acting under the full impulse of those violent passions which sway the inhabitants of the east. A catastrophe occurred not long ago, when the fortress of Adjyghur was evacuated to the British, which fully elucidates this:—The removal of the family of the Zemindar, who had occasioned hostilities, having been directed, his father-in-law was desired to prepare the females for it. Instead of doing so, however, he murdered the whole family, and their children, eight in number, and then put an end to his own existence. What was still more extraordinary, the perpetration of his horrible deed was apparently with the consent, and at any rate without any complaint on the part of the sufferers. The Bondelas are either Bramins or Rajpoots.

Under the former chiefs the government was denominated the Hindupati of Bundelcund, the rajahs being of the Bundela tribe of Rajpoots. Their founder was Rajah Beer Singh, from whom the family of the Oorecha chief is descended. Bundelcund was from a remote period divided into several petty sovereignties. Rajahs of Callinger are mentioned by Mahomedan writers so early as the eleventh century, but it does not appear to have been incorporated with Bundelcund for several centuries afterwards. In the sixteenth century, a bondela, living in Benares, removed, we are told, to a fort in the district of Ouncha, then governed by a rajah, whose confidence he obtained. This bondela had a daughter of great beauty, of whom the rajah became enamoured, and demanded her in marriage. Consent being obtained, the rajah was invited to the house of her father, where the ceremony was to be performed, and where a splendid entertainment was prepared, of which he partook plentifully, but, poison having been treacherously administered, when the victims became incapable of defence, the prince and his attendants were all basely massacred. The bondela then placed himself on the musnud of the rajah, which he enjoyed with undeserved peace until his death. He was succeeded by Ber Sing Deo, his son, whose descendant is the rajah of Ouncha, accused of being a great plunderer, and he gained an accession of power by his services to the Soubahdar of Allahabad. His history is stained by the assassination of the celebrated Abul Fazel, prime minister of Aekbar, in which it is said he acted in compliance with the wishes of Jehangeer, the emperor's son, who was jealous of Abul Fazel's influence over his father, and who, on his accession to the throne of Delhi, entrusted Ber Sing Deo with the government of all Bundelcund, then called Dun-

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gush. About the middle of the last century, during the government of the Rajah Chattersaul, this territory was invaded by the chief of Furruckabad; when the rajah, to aid him in repelling the enemy, obtained the support of the Peshwa, Sewai Bajerow, on the condition of adopting him. Having driven off the invader, he partitioned Bundelcund between him and two of his own sons, allotting him a third of his dominions, the land revenue of which was estimated at about £1,300,000 sterling. He left also a numerous race of dependent children. Civil wars soon ensued from this state of things, and the weakness of the chiefs afforded a temptation for other invasions. Rajah Himnut Bahaudar, who commanded a great body of cavalry, and was the spiritual head and military leader of a numerous sect of devotees called Gosseins, united with Ali Bahauder, an illegitimate grandson of Bajerooli, in 1786, in a project of this kind. The actual invasion took place in 1789, when Ali Bahauder, acting in the name of the peshwa, conquered much of the district.

Several years elapsed before the establishment of the Mahratta authority; and though an arrangement was made whereby the Peshwa was acknowledged lord paramount of all the conquests effected in Bundelcund by Ali Bahauder, and tribute assigned to him accordingly, the latter contrived to evade all the conditions of the treaty. He was succeeded in 1802 by his eldest son, Shumshere Bahauder, then absent at Poonah, and a regent of Bundelcund was appointed until his return.

A war now broke out between the British and the Mahrattas, and Himnut Bahauder, a chief of great power here, endeavoured to accomplish the transference of this district to the former. Colonel Powell, in September 1823, accordingly crossed the Jumna for the purpose of entering Bundelcund, and was joined by Himnut with a body of 13,000 or 14,000 men.

A proposal was at this juncture made by the Mahrattas, for the cession of a portion of the territory of Bundelcund to the British, in lieu of certain districts in the Deccan, which had been previously ceded. Troops were also stationed in Bundelcund for the protection of other parts, and successive arrangements of a conciliatory nature were made with Shumshere, and the rest of the chiefs, whereby the British authority soon became established. It was thought expedient however, in 1807, to bestow a considerable tract of country on a descendant of the regent Chattersal, on condition of his guarding the passes; arrangements were also made, conceding to the chief of Calpee, on the confines of Bundelcund, a portion of the interior, in lieu of the city and district of Calpee, and several villages on the Jumna. Meantime the fortress of Callinjer was besieged, and though, assaulted more than once in vain, finally carried: and Bundelcund was ultimately formed into a British district, subordinate to the Benares court of circuit, and a civil establishment appointed for the administration of justice, and collection of the revenue.

In 1805 the estimated revenue derived by the British from Bundelcund was as follows, viz.

The several districts then actually possessed by government, including Calpec, and part of Rypoor, on the banks of the Jumna . . .	1,400,000
The territory of rajah Himmuto Bahader . . .	1 533,184
The districts of Callinger, Jeypoor, Huldei, and part of Cutolce, below the Ghauts, estimated at five lacks of rupees, but chargeable with Jaghires and provisions for the native leaders . . .	500,000
The city and diamond mines of Pan-nah, with a portion of territory adjacent, the probable revenue being . . .	200,000
	<hr/>
Rupees	3,633,184

BUNDLE, *v. & n.* Goth. *bindel*; Swed. *byndel*; Belg. *bondel*. See **TO BIND**. Various things tied together, a package; a roll, any thing rolled up. To bundle, is to tie; to fasten together; to roll up; vulgarly to take ones' self off.

As to the *bundles* of petitions in parliament, they were, for the most part, petitions of private persons.

Hale.

Try lads, can you this *bundle* break;—

Then bids the youngest of the six

Take up a well-bound heap of sticks.

Swift.

See how the double nation lies,

Like a rich coat with skirts of frize;

As if a man, in making posies,

Should *bundle* thistles up with roses.

Id.

She carried a great *bundle* of Flanders lace under her arm; but finding herself overladen, she dropped the good man, and brought away the *bundle*.

Spectator.

BUNDLES, records of the chancery, lying in the office of the rolls; in which are contained the files of bills and answers; of Hab. Cor. cum causâ; certiorari's; attachments, &c. scire facias's; certificates of statute-staple; extents and liberates; supersedeas's; bails on special pardons; bills from the Exchequer of the names of sheriffs; privy seals for grants; bills signed by the king; warrants of escheators, &c.

BUNG *v. & n.* } Dan. *bundt*; Fr. *boudon*.

BUNG *nole.* } See **BUNCH**. A bunch; a plug; a stopper. Bung-hole is the hole in a cask to receive the bung; but the vulgar bung is supposed to mean the aperture. Bung is by the common people frequently used as a verb; to bung up, in boxing, is to close up the eyes.

Why may not imagination trace the noblest dust of Alexander, till he find it stopping a *bung-hole*?

Shakspeare.

After three nights are expired, the next morning pull out the *bung*, stick, or plug.

Mortimer.

BUNGALOW, an Indian term for a house with a thatched roof.

BUNGAY, a market town of Suffolk, in the hundred of Wangford, situated on the river Waveney. The town consists of two parishes, St. Mary's and the Holy Trinity, and is well built. The river Waveney enables the inhabitants to carry on a considerable trade in corn, malt, coals and lime. Numbers of women are also

employed in knitting stockings. St. Mary's church is a handsome structure. The church of the Holy Trinity was appropriated to the priory of Barlynch, in Somerset, but now belongs to the bishop of Ely. Here are the ruins of a castle, supposed to have been built by the Bygods, earls of Norfolk, which was formerly fortified. A fire which happened in 1683, consumed the whole town, with the exception of one street. Market on Thursday. Fairs, 14th May and 25th September.

BUNGISHAT, a district of Afghaunistaun, in the province of Cabul, situated about the thirty-third degree of north latitude. It is bounded on the east by the river Indus, and intersected by the Cowmul, along the south side of which Sey-lax is conjectured to have built his vessels, and from thence to have sailed down the Indus. The principal towns are Gawhaut, Kohaut, and Bupnoo. The tribe of Bungish emigrated from Tirah.

BUNGLE, *v. & n.* }

BUNGLER,

BUNGLINGLY.

Welsh *bwngler*; *q. bôn y glér*, i. e. the last or lowest of the profession.—

Davies. A bad workman; a clumsy performer; a man without skill. To make a botch; to manage clumsily; to conduct awkwardly.

Other devils, that suggest by treasons,

Do hutch and *bungle* up damnation,

With patches, colours, and with forms, being fetcht

From glistening semblances of piety.

Shakspeare.

When men want light

They make but *bungling* work.

Dryden.

Hard features every *bungler* can command;

To draw true beauty shews a master's hand.

Id.

To see the *bungler* thus distrust

The very fishes sneer and jest,

Even gudgeons join in ridicule

To mortify the meddling fool.

Gay's Fables.

A *bungler* thus, who scarce the nail can hit,

With driving wrong will make the pannel split.

Swift.

Errours and *bungles* are committed, when the matter is inapt or contumacious.

Ray on the Creation.

To denominate them monsters, they must have had some system of parts, compounded of solids and fluids, that executed, though but *bunglingly*, their peculiar functions.

Bentley.

BUNGO, a district or kingdom of Japan, in the island of Ximo. The king was baptised by the name of Francis Civan, and sent an embassy to Pope Gregory XIII. in the year 1582. Its capital is Fumay. Long. 132° E., lat. 32° 40' N.

BUNIAS, in botany, a genus of the order *siliquosa* and *tetradynamia* class of plants: The siliqua is deciduous, four sided, muricated, or shagreened, with unequal pointed angles, without valve, two or four celled. There are eight species; all annual plants, and natives of the north of Europe.

BUNUM, **PIG-NUT**, or **EARTH-NUT**, in botany, a genus of the dignia order, and the *pentandria* class of plants: natural order, forty-fifth *umbellatæ*. Cor. uniform, the umbel thick, and the fruit ovate. There are but four known species. *B. bulbocastanum* is the chief. It grows naturally in moist pastures in Britain, and has a tuberous solid root, which lies dead on the

ground. The roots of this sort are frequently dug up, and by some people eaten raw. They have much resemblance in taste to a chestnut, whence their specific name.

BUNKER'S HILL, a high ground in the state of Massachusetts, which over-looks the whole city of Boston; rendered memorable by the redoubt erected upon it by the Americans, and consequent action fought, in the beginning of the American war. See AMERICA.

BUNN'. Ital. *bugna*; Fr. *bignet*, Span. *bu-nela*; *Bovv* was a honey cake offered to the gods; and Sax. *beon*, bread, honeycomb. French *big-nets* are little round loaves, or lumps, made of fine meal, oil, or butter, and raisins. In English *bunn* is a kind of sweet bread.

Thy songs are sweeter to mine ear,
Than to the thirsty cattle rivers clear,
Or winter porridge to the laboring youth,
Or *bunns* and sugar to the damsel's tooth.

Gay's Pastorals.

BUNT', } Goth. *bogt*, Sax. *bugunt*; Dan.

BUNT'ER. } *bug*, *bugt*; Belg. *bogt*. See *To BEND*. Bunt is the middle part of a sail when filled with the wind; bending, swelling out. Bunt, says the Encyclopædia Metropolitana, are perhaps bent or broken bits; and he infers if this be correct, bunter may have been originally applied to one who picks up bits of any thing about the streets or ways, and then to any low woman. But it is far more probable that this offensive term is from the Belgic *voden hoer*, from *vod*, a rag, a *wad*, that is, a ragged wench, a slut. The Saxon *butan hure*, signifies a hedge-whore, or outlier.

The wear is a frith, reaching slopewise through the ooze, from the land to low water mark, and having in it a *bunt*, or eod, with an eye-hook. *Carew.*

Having not flint evermore readie at hand to smite and kindle fire withall, they make shift for to rub and grate one wood against another, and by this attrition there flie out sparkles, which lighting upon some tinder, made either of drie rotten touchwood or of *bunts* and withered leaves, very quickly catch fire, and burne not out. *Holland's Plinie*, vol. i. fol. 490.

See how she's dressed, as fine as hands and pins can make her, while her two marriageable daughters, like *bunters* in stuff gowns, are now taking sixpenny-worth of tea at the White Conduit-house.

Goldsmith. The Bee, No. 2. *On Dress.*

BUNT LINES, are small lines made fast to the bottom of the sails, in the middle part of the bolt rope, to a cringle, and are so reeved through a small block, seized to the yard. Their use is to trice up the bunt of the sail for the better furling it up.

BUNT OF A SAIL, the middle part of it, formed designedly into a bag or cavity, that the sail may gather more wind. It is used mostly in top-sails, because coursers are generally cut square, or with but small allowance for bunt or compass. The bunt holds much to leeward wind; that is, it hangs much to leeward.

BUNTING. Welsh *bontinau*g, fat rump, Belg. *bunting*, however signified speckled. Its first application is to a kind of lark; the vulgar name of the emberiza miliaria. Its next reference is to a kind of the open stuff used for ships' colors, corrupted from bolting cloth.

BUNTING, in ornithology. See EMBERIZA.

BUNTINGFORD, a market town of Hertfordshire, in the hundred of Edwintree, ten miles north from Ware, and thirty-one west from London. The church is situated about half a mile from the town; and is a handsome ancient building. There is also an alms-house and a free-school. Market-day, Monday.

BUNTZLAU, a circle and town of Bohemia, is bounded on the east by the circle of Koningsgratz, on the south by that of Kaurzim, on the west by Leutmeretz, and on the north by Silesia and Lusatia. The northern part is mountainous, and includes a portion of the Reisingebirg; several large forests, and many flourishing manufactories of linen, glass, and wool. The rivers which flow from these mountains yield different kinds of precious stones. The level tracts are in general dry and gravelly, but yield noble crops of corn and flax, and an abundance of hops, wine, and fruits. The rivers also afford various precious ores. The whole circle contains 1880 square miles, thirty-eight lordships, thirty-one market boroughs, twelve towns, and 1000 villages, with a population of 280,000 inhabitants. Buntzlau, the capital, has some good manufactures of leather, cloth, iron, and soap, together with a respectable manufactory, and about 1000 inhabitants. It is twenty-eight miles N. N. E. of Prague, and fifty-eight north-east of Dresden. Old Buntzlau is a smaller place of the same circle.

BUNTZLAC, Silesia, is a town of Silesia, capital of a circle in the province of Jauer. Here are manufactured linen, pottery ware, and woollen cloths. Population 3300. It is twenty-six miles north-west of Jauer, and forty-two west of Schweidnitz.

BUNWOOT, an island lying off the west coast of Mindanao in the Eastern seas, opposite to Mindanao river. It is about eighteen miles in circuit, and has on the north side a harbour called Ubal, almost circular, which is conjectured to have been the crater of a volcano. The island is remarkably healthy and fruitful, and nearly covered with tall timber. Here is a vine, the thickest part of which is about the size of a man's leg, and, being bruised with a hard mallet, it yields a kind of juice which is converted into a useful lee. Wild hogs, monkeys, lizards, and a brown spotted snake, about eighteen inches long, said to be poisonous, are found here. This island was granted to the East India Company, by the sultan of Magindanao, in 1775.

BUNYAN (John), author of the well-known Pilgrim's Progress, was born at Elstow near Bedford, in 1628. He was the son of a tinker; and in the early part of his life a soldier in the parliamentary army. He for some years led a very dissolute life, but at length began to study the Scriptures, and about 1655 was admitted a member of a Baptist congregation at Bedford, of which he was soon after chosen pastor; but, in 1660, being taken up for presuming to preach, was committed to jail, where he supported his family by making tagged laces. In this unjust and cruel confinement he wrote his Pilgrim's Progress, a religious allegory, which has passed through some hundreds of editions, and been translated into most of the languages of Europe.

He was also the author of another work of a similar nature, entitled *The Holy War*. Here he was detained twelve years and a half, and during that time wrote many of his tracts; but was at length discharged by the humane interposition of Barlow, bishop of Lincoln. When King James's declaration for liberty of conscience was published, he resumed his sacred duties. He at length died of a fever in London, 1688, aged sixty. His works have been collected together, and printed in 2 vols. fol.

BUONAPARTE (Napoleon). See **NAPOLEON**.

BUOY', *v. & n.* Bel. *boci*, Fr. *boye*, Ital. *BUOY'ANCY*, } *boya*, Dan. *bage*, Belg. *boci-*
BUOY'ANT. } *jen*, *opboeijen*. The noun is applied to a float set in the water; a kind of tub fastened to the anchor of a ship to mark where it lies. The verb signifies to float, to bear on high, to elevate, to sustain, as the float swims, upheld by the water. Buoyancy is lightness, elasticity, alacrity in swimming and keeping up.

The fishermen, that walk upon the beach,
Appear like mice; and yon tall anchoring bark
Diminished to her cock; her cock a buoy,
Almost too small for sight. *Shakspeare. King Lear.*

All art is used to sink episcopacy, and launch presbytery, in England; which was lately buoyed up in Scotland, by the like artifice of a covenant.

King Charles.
All the winged tribes owe their flight and buoyancy to it.
Derham's Physico-Theology.

The water which rises out of the abyss, for the supply of springs and rivers, would not have stopped at the surface of the earth, but marched directly up into the atmosphere, wherever there was heat enough in the air to continue its ascent, and buoy it up.

Woodward's Nat. Hist.

Like buoys that never sink into the flood,
On learning's surface we but lie and nod.
Pope's Dunciad.

Rising merit will buoy up at last.
Id. Essay on Criticism.

His once so vivid nerves,
So full of buoyant spirit now no more
Inspire the course. *Thomson's Autumn.*

BUOY, in sea affairs, a sort of close cask, or block of wood, fastened by a rope to the anchor, to determine the place where the anchor is situated, that the ship may not come too near it, to entangle her cable about the stock or flukes of it. Buoys are of various kinds; as,

Cable buoys are common casks employed to buoy up the cables in different places from rocky ground. In the harbour of Alexandria in Egypt every ship is moored with at least three cables, and has three or four of these buoys on each cable for this purpose.

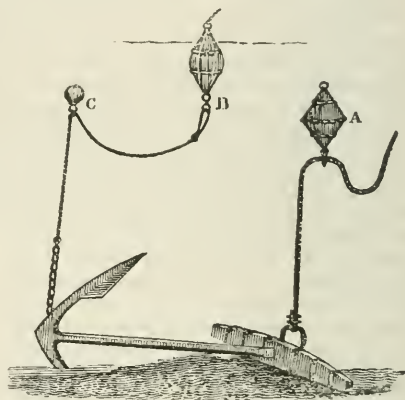
Can or cone buoys, these are in the form of a cone; and of this construction are all the buoys which are floated over dangerous banks and shallows, as a warning to passing ships, that they may avoid them. They are extremely large, that they may be seen at a distance; and are fastened by long chains to the anchors which are sunk for that purpose at such places. See the diagram annexed.



Nun buoys are shaped like the middle frustum of two cones, abutting upon one common base, being casks, which are large in the middle, and tapering nearly to a point at each end. See the annexed diagram.



The following diagram of an anchor with its buoys and ropes complete will best show their use. A is the great cable buoy, B the buoy-rope with the buoy floating at the surface of the water, C the sustaining ball to prevent the buoy-rope from getting foul of the flukes, &c. of the anchor and cutting; but except on rocky shores this ball is seldom used.



Mr. Peache, of Lambeth, took out a patent for a floating buoy on a new construction in April, 1807. It is formed by pieces of wood longitudinally applied to each other, after the manner of staves; but instead of making the joints to consist of flat surfaces, evenly or squarely applied to or against each other, they are rabbetted together, by making the half thickness of each piece to overlap the other. The faces are to be tarred, and applied to each other, and upon one of them is spread a covering of hair, &c. and upon this is applied, in a melted state, a coat of pitch and tar, after which the joints are put together, and secured by screws, pins, bolts, and by hoops enveloping the whole. The heads of the buoys are put in by rabbetting the same in with the staves: the fitting is made good by several steps or successive faces in the joints, between which, pitch, tar, hair, &c. are applied, and, for greater security, there are sometimes two, or even more, additional heads, fixed within the external heads.

BUOY-ROPE, the rope which fastens the buoy to the anchor: it should be little more than equal in length to the depth of the water where the anchor lies, as it is intended to float near, or immediately above, the bed of it, that the pilot may at all times know the situation. The buoy-rope is often extremely useful in drawing up the au-

chor when the cable is broke. It should always, therefore, be of sufficient strength for this purpose, or else the anchor may be lost through negligence.

BOUY, SLINGS OF THE, the ropes which are fastened about it, and by which it is hung: they are curiously spliced around it, something resembling the braces of a drum.

BOUY, TO STREAM THE, is to let it fall from the ship's side into the water; which is always done before they let go the anchor, that it may not be retarded by the buoy-rope as it sinks to the bottom.

BUPALUS, a celebrated sculptor, a native of the island of Chios. He had a brother, named Athenis, of the same profession. They flourished about the sixtieth Olympiad; and were contemporary with Hipponax, a deformed poet. Our sculptors diverted themselves in representing him under a ridiculous form, upon which Hipponax wrote so sharp a satire against them, that they hanged themselves. Pliny, however, says, that they made several fine statues after Hipponax had taken his revenge; particularly a Diana at Chios, which was placed very high, and appeared with a frowning countenance to those that came in and with a pleasant one to those that went out. There were several statues at Rome made by them; they worked only in the white marble of the Isle of Paros. Pausanias mentions Bupalus as a good architect as well as sculptor; but says nothing of Athenis.

BUPARIA, in entomology, a winged species of pimelia, the tenebrio buparius of Forster; color black, and glabrous; thorax lunated; jaws strong, toothed, and as long as the head. It inhabits Spain.

BUPIAGA, in ornithology, a genus belonging to the order of picæ. The beak is straight and quadrangular; the mandibles are gibbous, entire, and the gibbosity is greater on the outside. The feet are of the ambulatory kind. The body is grayish above, and of a dirty yellow below; the tail is shaped like a wedge. There is but one species, viz. *B. Africana*, the African beef-eater, a native of Senegal. It frequently perches upon oxen to pick out the larva of the oestri from their backs.

BUPHONIA, from *βεγ*, ox, and *φωνη*, slaughter; in antiquity, an Athenian feast. We are told it was forbidden, by the laws of Attica, to kill an ox; but it once happened, at the feast of the dipolia, that an ox ate the corn, others say the cakes, which had been dressed for the sacrifice. Thaulon the priest, enraged at this, immediately killed him, and fled for it. On which the Athenians, fearing the resentment of the gods, and feigning themselves ignorant as to who had committed the fact, brought the bloody axe before the judges, where it was solemnly arraigned, tried, found guilty, and condemned! In memory of the event this feast was instituted, in which it was customary for the priest to fly, and judgment to be given about the slaughter of the ox.

BUPHTHALMUM, ox-eye; a genus of the polygamia superflua order, and syngenesia class of plants; natural order forty-ninth, compositæ. The receptacle is paleaceous; the pappus an in-

different rim; the seeds, especially those of the radius, emarginated on the sides; the stigmata of the hermaphrodite florets undivided. There are twenty species; the most remarkable are: *B. arborescens*, rising with several woody stems to the height of eight or ten feet, with pale yellow flowers. 2. *B. helianthoides*, a native of North America.

BUPHTHALMUS, in botany, a name given by some of the ancients to the great house-leek, or sedum majus, from the manner of its growing in clusters resembling the eyes of large animals.

BUPLEURUM, hare's ear, or thoroughwax; a genus of the dignia order, and pentandria class of plants; natural order forty-fifth, umbellatæ. The involucri of the partial umbels are large in proportion, and pentapillous; the petals involuted, or rolled inwards; the fruit roundish, compressed, and striated. The principal species is the *B. fruticosum*, or shrubby Ethiopian hartwort. It rises with a shrubby stem, dividing into numerous branches, forming a bushy head five or six feet high, adorned with oblong, oval, entire leaves, placed alternate, with yellow flowers in umbels at the ends of the branches, which appear in July and August, and are sometimes succeeded by ripe seeds. It may be propagated by cuttings. This plant was formerly celebrated for curing ruptures, mixed into a poultice with wine and oatmeal.

BUPRESTIS, in entomology, a genus of insects belonging to the order of coleoptera. The antennæ are setaceous and serrated, and as long as the thorax: the head is half drawn back within the thorax: the mouth is armed with jaws, and furnished with palpi: the elytra are margined, and cover the abdomen; and the tarsi have five articulations: the feet are saltatori. Linnæus, Fabricius, and Gmelin, describe the following species:—*unidentata*, *bicolor*, *gigantea*, *vittata*, *fastuosa*, *punctatissima*, *corrusca*, *decora*, *berolinensis*, *obscura*, *lurida*, *punctata*, *fasciata*, *striata*, *rauca*, *ritulans*, *octoguttata*, *ignita*, *lineata*, *aerosa*, *ocellata*, *maculosa*, *maculata*, *stricta*, *sternicornis*, *chrysis*, *violacea*, *aegyptica*, *mariana*, *farinosa*, *fulminans*, *cyanipes*, *modesta*, *blanda*, *aureata*, *elegans*, *tripunctata*, *chrysostigma*, *dorsata*, *impressa*, *ornata*, *taeniata*, *Cayennensis*, *cylindrica*, *trochilus*, *scabra*, *decastigma*, *canaliculata*, *rustica*, *acuminata*, *plcbeja*, *Tranquebarica*, *lugubris*, *cariosa*, *undata*, *Austriaca*, *splendens*, *sibirica*, *fusca*, *tenebrionis*, *aurulenta*, *fascicularis*, *variolaris*, *onopordi*, *hirta*, *deaurata*, *rubi*, *nitidula*, *lata*, *cyanea*, *salicis*, *discoidea*, *quadrinaculata*, *bimaculata*, *novem-naculata*, *tristis*, *aenea*, *cuprea*, *nobilis*, *barbarica*, *umbellatarum*, *quadrupunctata*, *cruciata*, *manca*, *pygmæa*, *meditabunda*, *minuta*, *viridis*, *atra*, *biguttata*, *elata*, *ruficollis*, *linearis*, *festiva*, *granularis*, *depressa*, *calcarata*, *fuliginosa*, *hæmorrhoidalis*, *quercus*, *hirsuta*, *11-maculata*, *sex-maculata*, *varicornis*, *acuta*, *nævii*, *picta*, *inaurata*, *tatarica*, *Virginica*, *nana*, *marginata*, *nigra*, *rosacea*, *ungarica*, *nebulosa*, *bruttia*, *stephanelli*, *rugosa*, and *coccinea*.

BUPRESTOIDES, in entomology, a species of attelabus; color black; shells nervous; thorax globular. This is the buprestis ater of Linnæus. Also a species of carabus; color black; antennæ

and feelers ferruginous; legs piceous. Inhabits the south of Europe.

BUR, *BOUR*, *BOR*, come from the Sax. *bur*, an inner chamber, or place of shade and retirement.

BUR', *n. s.* Lat. *lappa*, Fr. *bourre*, is down; the bur being filled with a soft tomentum or down. A rough head of a plant, called a burdock, which sticks to the hair or clothes.

Nothing teems

But hateful docks, rough thistles, kecksies, *burs*,

Losing both beauty and utility.

Shakespeare. Henry V.

Hang off, thou cat, thou *bur*; vile thing, let loose;
Or I will shake thee from me like a serpent. *Id.*

Dependents and suitors are always the *burs*, and sometimes the briers, of favourites. *Wotton.*

And where the vales with violets once were crowned,
Now knotty *burs* and thorns disgrace the ground.

Dryden.

A fellow stuck like a *bur*, that there was no shaking him off.

Arbuthnot's Hist. of John Bull.

BUR, in chivalry, a broad ring of iron behind the place made for the hand on the spears used formerly in tilting; which bur was brought to rest when the tilter charged his spear.

BURBER, an Egyptian piece of copper money; thick and as broad as a sixpence; twelve of them make a medine.

BURBOT', *n. s.* A fish full of prickles. It is the English name of the *mustela fluviatilis*, a fish common in the Trent and other rivers in England. It is also called the eel-pout and is the *gadus lota* of Linnæus.

BURCA, among the Turks, the name of the rich covering of the door of the house at Mecca; it is ten feet long and five wide; and there are several figures and Arabic letters on it, very richly embroidered in gold, on a ground of red and green. It is carried about in their solemn processions, and is often stopped that the people may touch it.

BURCKHARDT (J. Lewis), was the son of Colonel Gideon Burckhardt, born at Lausanne in Switzerland, in 1784. He was educated at Leipzig and Göttingen, and in 1806 visited England; where he offered his services to the African Association. His proposals were accepted, and he went to Cambridge to study Arabic, and acquire other necessary knowledge. In March, 1809, he sailed for the Mediterranean and Aleppo, where he adopted the name of Ibrahim, and assumed the character of a Mussulman. He continued two years and a half in Syria, and made himself familiar with all the spoken dialects of the country. He set off for Nubia in the beginning of 1813; crossed the Red Sea; and, after visiting Mecca and Medina, arrived at Cairo in June 1815. The following spring he took his journey to mount Sinai, and, returning to Cairo, proposed to join one of the trading caravans to Timbuctoo; but the caravan was delayed by the disturbed state of the country. When the opportunity at last arrived he was seized with dysentery, and died, after a short illness, at Cairo. His papers were sent to the African Association, who published, in 1819, his *Travels in Nubia*; and afterwards his *Travels in Syria and the Holy Land*.

BURDEGALA, or BURDIGALA, in ancient geography, a trading port town of Aquitania, the birth place of Ausonius. It is now called Bourdeaux.

BUR'DELAIS, *n. s.* A sort of grape.

BUR'DEN, *v. & n. or* } Per. *burdon*, Sax.
BUR'THEN, } byrden, Goth. *burd*,
BUR'DENING, } Swed. *borda*, Sax.
BUR'DENER, } beart, from bear, to
BUR'DENOUS, } carry, as φορτίον from
BUR'DENSOME. } φέρω. Thus it signi-

fies a load, a weight that is borne. It has another sense, namely the purport or bearing of a song; perhaps from Ital. *bordone*, Fr. *bourdon*, Welsh *byrden*, the bass or drone in music, Goth. *bijar dyn*, the sound of bees. Burden is sometimes used not only to signify what is borne, but the capacity to bear, as the capacity of a ship; thus we say a ship of 100 tons burden. It is metaphorically descriptive of grief, oppression, weariness, and misery.

Burden not thyself above thy power.

Eccclus. xiii. 2.

I mean not that other men be eased, and you *burdened*. *Corinthians viii. 13.*

And thei would bind on folke alwaie

(That ben to be begiled able),

Burdons that ben importable.

Chaucer. Romant of the Rose.

Long time ye both in armes shall beare great sway,
Till thy wombes *burden* thee from them do call,
And his last fate him from thee take away,
Too rathe cut off by practice criminall
Of secret foes, that him shall make in mischief fall.

Spenser.

So on a morrow forth, unwist of any wight,
I went to prove how well it would my heavy *burden*
light,

And when I felt the air so pleasant round about,
Lord! to myself how glad I was that I had gotten out.
Earl of Surrey.

Camels have their provender

Only for bearing *burdens*, and sore blows

For sinking under them. *Shakespeare. Coriolanus.*

Make no jest of that which hath so earnestly pierced me through, nor let that be light to thee which to me is so *burdenous*. *Sidney.*

So once the cradle of that light,
Whereof one rules the night, the other the day,
Till sad Latona, flying Juno's spite,
Her double *burthen* there did safely lay.

Fletcher's Purple Island.

It is of use in lading of ships, and may help to shew what *burden*, in the several kinds, they will bear.

Bacon's Physical Remains.

Couldst thou support

That *burden*, heavier than the earth to bear?

Milton.

His leisure told him that his time was come,
And lack of load made his life *burdensome*. *Id.*

At every close she made, the attending throng
Replied, and bore the *burden* of the song.

Dryden's Fables.

Assistances always attending us, upon the easy condition of our prayers, and by which the most *burdensome* duty will become light and easy. *Rogers.*

None of the things that are to learn, should ever be made a *burden* to them, or imposed on them as a task. *Locke.*

Deaf, giddy, helpless, left alone,
To all my friends a *burden* grown.

Swift.

BERTHA. That back of thine may bear its *burthen*,
'tis
More ligh, if not so broad as that of others.

ARNOLD. It bears its *burthen*;—but my heart!
will it

Sustain that which you lay upon it, mother?

Byron's Deformed Transformed.

BURDEN, or **BURDON**, *bourdon*, French, in music, the drone or bass, and the pipe or string which plays it: hence the burden of a song. A chord which is to be divided to perform the intervals of music, when open and undivided, is also called the burden.

BURDEN OF A SHIP, is its contents, or the number of tons it will carry. It may be determined thus: multiply the length of the keel, taken within board, by the breadth of the ship, within board, taken from the midship-beam, from plank to plank; and multiply the product by the depth of the hold, taken from the plank below the keelson, to the under part of the upper deck plank; and divide the last product by ninety-four; the quotient is the content of the tonnage required. See **FREIGHT**.

BURDEN, SHIPS OF, denote those of a larger and heavier sort, carrying 500 tons, or upwards.

BURDO, in physiology, a mongrel beast of burden, produced by a horse and she-ass, by which it is distinguished from the mule, which is that produced by a male ass of a mare.

BUR'DOCK, *n. s. Persnoata*. A plant. See **ARCTIUM**.

BURDON (William), was born in 1764, at Newcastle-upon-Tyne, and educated at Emanuel College, Cambridge, where he took his degrees in arts, and obtained a fellowship, which, as he would not enter into orders, he resigned. He died in London in 1818. His works are: 1. *Life and Character of Buonaparte*. 2. *Examination of the Pursuits of Literature*, 8vo. 3. *Materials for Thinking*, 2 vols. 8vo. 4. *Three Letters to the Bishop of Llandaff*. 5. *Letters on the Affairs of Spain*. 6. *Thoughts on Politics, Morality, and Literature*, 8vo. 7. *A Vindication of Pope and Grattan*. 8. *Treatise on the Privileges of the House of Commons*; and several miscellaneous essays and papers in the periodical publications.

BURDWAN, a fertile district of Bengal, between the twenty-second and twenty-fourth degrees of north latitude, and on the west side of the Baggarutty or Hoogly river. It is about seventy-three miles long and forty-five broad. In the year 1790 this district yielded an annual revenue of £400,000 sterling. The family of the present rajah have been in possession of the zemindary for about a century.

BURDWAN, the capital of the above district, was often taken and retaken during the contests between the Afghans and the Moguls for the possession of Bengal, and for several years, in the end of the seventh century, was the residence of prince Azeem Oosshan, the grandson of Aurungzebe, then governor of Bengal. He much improved the city, and built there a mosque. In this place is the tomb of Ibrahim Sukka, a celebrated Mahomedan saint. There was formerly a citadel here of no great strength. It stands on the north bank of the Dummoodah river.

BURE (William de), a Paris bookseller, and bibliographer of great reputation. His principal work, which is a standard performance, is *Bibliographie Instructive ou Traité des Livres rares et singulieres*, Paris, 1763, 7 vols. 8vo. He also published a *Catalogue of the Library of M. de la Valliere*, 1767, 2 vols. and *Museum Typographicum*, 1775, 12mo. He died respected in 1782.

BUREAU, *n. s. Fr. bureau*. A chest of drawers with a writing-board. It is pronounced as if it were spelt *buro*.

For not the desk with silver nails,
Nor bureau of expense,
Nor standish well japanned, avails,
To writing of good sense.

Swift.

BURG' ,	} Arab. <i>boorj</i> , Chald. <i>burgadh</i> , <i>Ἰπυργος</i> , Swed. <i>borg</i> , Goth. <i>berg</i> , <i>biarg</i> , Sax. <i>beorg</i> , Goth. <i>borg</i> , Sax. <i>Teut. Bel. burg</i> , Arm. and Irish <i>burg</i> , Welsh <i>bourg</i> , Fr. <i>bourg</i> , Ital. <i>borgo</i> . A tower, a mount, a hill, a walled town; sometimes confounded with borough, which apparently has the same root in Goth. <i>berga</i> , to defend. 'Burgage is a tenure proper to cities and towns, whereby men of cities or burrows hold their lands or tenements of the king, or other lord, for a certain yearly rent.'— <i>Cowell</i> . A burgess and burgher, is a citizen; a freeman of a city or corporate town, with the privilege of the elective franchise, a representative of such a town. A burgomaster is one who governs or defends a fortified town or city.
BURG'GAGE ,	
BURG'GESS ,	
BURGH' ,	
BURGH'ER ,	
BURGH'MOTE ,	
BURGH'MASTER ,	
BUR'GRAVE .	

It irks me, the poor dappled fools,
Being native *burghers* of this desert city,
Should in their own confines, with forked heads,
Have their round haunches gored.

Shakspeare. As you Like it.

The gross of the borough is surveyed together in the beginning of the county; but there are some other particular *burgages* thereof, mentioned under the titles of particular men's possessions.

Hale's Origin of Mankind.

Four knights and a knave who were *burgesses* made,
For selling their consciences were liberally paid.

Marvell.

The portly *burgess* through the weather hot,
Does for his corporation sweat and wot.

Id.

Could this be,
Case why, their *burghomaster* of the sea
Ram'd with gunpowder, flaming with brand wine,
Should raging hold his linstock to the mine?

Id.

The fish oft times the *burgher* dispossessed,
And sat not as a meat but as a guest.

Id.

It is a republick itself, under the protection of the eight ancient cantons. There are in it an hundred *burgeois*, and about a thousand souls. *Addison on Italy.*

They choose their councils and *burgomasters* out of the *burgeois*, as in the other governments of Switzerland.

Addison.

Many towns in Cornwall, when they were first allowed to send *burgesses* to the parliament, bore another proportion to London than now; for several of these *burghs* send two *burgesses*, whereas London itself sends but four.

Graunt.

The Forester
Hunts not the wretched coney, but the boar,
Or wolf, or lion, leaving paltry game
To petty *burghers*, who leave once a year
Their walls, to fill their household cauldrons with
Such scullion prey.

Byron's Deformed Transformed.

BURGAGE, or TENURE IN BURGAGE, is only a kind of town soccage; as common soccage, by which other lands are holden, is usually of a rural nature. A borough is distinguished from other towns by the right of sending members to parliament; and, where the right of election is by burgage tenure, that alone is a proof of the antiquity of the borough. Tenure in burgage, therefore, or burgage tenure, is where houses or lands which were formerly the site of houses in an ancient borough, are held of some lord in common soccage, by a certain established rent. And they seem to have withstood the shock of the Norman encroachments, principally on account of their insignificance, which made it not worth while to compel them to an alteration of tenure, as 100 of them together would scarce have amounted to a knight's fee. Besides, the owners, being chiefly artificers, and persons engaged in trade, could not with any propriety be put on such a military establishment as the tenure in chivalry was. The free soccage, therefore, in which these tenements are held, seems to be plainly a remnant of Saxon liberty; which may also account for the great variety of customs affecting many of these tenements so held in ancient burgage; the principal and most remarkable of which is that called Borough English. See *BOROUGH ENGLISH*.

BUR'GANET, or BUR'GONET, *n. s.* From *Fr. burginote*. A kind of helmet.

Upon his head his glistering *burganet*,
The which was wrought by wondrous device,
And curiously engraven, he did fit.

Spenser's Muipotmos.

This day I'll wear aloft my *burgonet*,
Even to affright thee with the view thereof.

Shakspeare.

I was page to a footman, carrying after him his pike
and *burganet*.

Hakewill on Providence.

BURGAU, in natural history, the name of a large species of sea-snail, of the lunar or round-mouthed kind. It is very beautifully lined with a coat, of the nature of mother-of-pearl; and the artificers take this out, to use under the name of mother-of-pearl, though some call it after the name of the shell they take it from, *burgaudine*.

BURGAU, an open town of Suabia, on the Mindel, formerly the chief town of the margraviate of that name; has a population of 2400: it is nineteen miles north-west of Augsburg, and twenty E. N. E. of Ulm.

BURGAU, a margraviate of Suabia, on the Danube, between the Lech and the Iller, now belonging to Bavaria, to whom it was ceded by Austria, at the peace of Presburg. It is about thirty-six miles square, and included in the Bavarian circle of the Upper Danube. A small portion, however, belongs to the district of Ursberg, in the circle of the Iller.

BURGER (Godfred Augustus), a German

poet, principally known in this country as the author of *Leonora*, was born at Wolmerswende, in the principality of Halberstadt, in 1748. His father, a Lutheran minister, gave him a good education, but Burger was averse from study, and passed his early life in dissipation; occasionally producing a few popular ballads. He also translated some of our old English ballads into German with considerable effect. In 1787 he lectured on the philosophy of Kant, and in 1789 was appointed professor of belles lettres in the university of Göttingen. He died in 1794. His *Leonora* has been several times translated into English; and Sir Walter Scott has executed an admirable version of his *Wild Huntsman's Chase*.

BURGESS signifies one who possesses a tenement in a borough. The word is also applied to the magistrates of some towns; as the bailiff and burgesses of Leominster. Anciently, burgesses were held in great contempt; being reputed servile, base, and unfit for war; so that the gentry were not allowed to intermarry in their families, or fight with them; but, in lieu thereof, were to appoint champions. A burgess's son was reputed of age when he could distinctly count money, measure cloth, &c.

BURGESSES, in the parliamentary sense, are supposed to represent the mercantile part, or trading interest of a nation. They were formerly allowed, by a rate established in the reign of Edward III. two shillings a-day as wages. It is to be regretted, that the members for boroughs, and, what is worse, decayed or rotten boroughs, bear above a quadruple proportion to those for counties. The right of election of burgesses depends on several local charters and customs: though, by 2 Geo. II. c. 24, the right for the future shall be allowed according to the last determination of the House of Commons concerning it; and by 3 Geo. III. c. 15, no freeman, except such as claim by birth, servitude, or marriage, shall be entitled to vote, unless he hath been admitted to his freedom twelve months before. This is called the Durham act, and it was occasioned by the corporation of Durham having, upon the eve of an election, in order to serve one of the candidates, admitted 215 honorary freemen. Some corporations have the power of admitting honorary freemen, viz. persons who, without any previous claim or pretension, are admitted to all the franchises of the corporation. The Durham act is confined to persons of that description solely. As every knight of a shire shall have a clear estate of freehold or copyhold, or mortgage, if the mortgagee has been seven years in possession, to the value of £600 per annum, so every representative citizen and burgess must have a clear estate to the value of £300; except the eldest sons of peers, and of persons qualified to be knights of shires, and except the members for the two universities. Stat. 9 Ann. c. 5; and of this qualification the member must make oath, and give in the particulars in writing, at the time of his taking his seat. But this act does not extend to Scotland nor Ireland.

BURGH (James), an ingenious political writer, born at Maderty, in Perthshire, in 1714. He

studied at St. Andrews, with the intention of becoming a clergyman; but bad health obliged him to turn to the linen trade; which not proving successful, he went to England, and commenced corrector of the press to Mr. Bowyer, for whom he also made indexes. After this he removed to Great Marlow, as assistant at a school; where, in 1746, he first commenced author, by writing a pamphlet, entitled *Britain's Remembrancer*; which went through five editions in two years; was reprinted in England, Ireland, and America; was ascribed to several bishops, and quoted by churchmen and dissenters from the pulpit. In 1747 he opened an academy at Stoke-Newington, in Middlesex; and his scholars increasing rapidly, he removed, in 1750, to a large house at Newington Green, where he remained for nineteen years. In 1751 he married Mrs. Harding, a widow lady, who concurred with him in his laudable undertakings. After a very laborious life, he retired to Islington in 1771, with the view of finishing a work he had long collected materials for, entitled *Political Disquisitions*, which came out in 1774 and 1775, in 3 vols. although he was then severely afflicted with the stone. Of this complaint he died, August 26th, 1775, aged sixty-one. His other works were: 1. *Thoughts on Education*, 1747. 2. An Hymn to the Creator; with an Idea of the Creator from his Works, in prose, 1750. 3. A Warning to Dram-Drinkers, 1751. 4. The Dignity of Human Nature, 1754, 4to. and 1767, 2 vols. 8vo. 5. *The Art of Speaking*, 1762 (fifth edition in 1782); with other tracts too numerous for insertion.

BURGH-BOTE signifies contribution towards the building or repairing of castles, or walls, for the defence of a borough or city. By the law of king Athelstan, the castles and walls of towns were to be repaired, and burgh-bote levied every year, within a fortnight after rogation days. No person whatever was exempted; the king himself could not exempt a man from burgh-bote: yet, in after times, exemptions appear to have been frequently granted.

BURGH-BRECHE, a fine imposed on the community of a town, or burgh, for the breach of peace among them.

BURGER SECEDERS, a numerous and respectable class of dissenters from the church of Scotland, who were originally connected with the associate presbytery; but some difference of sentiment arising about the lawfulness of taking the burgess oath, a separation ensued in 1739; in consequence of which, those who held for the affirmative, obtained the appellation of burgher, and their opponents that of antiburgher seceders. The antiburghers have, however, been recently re-united to the brethren. See **SECEDERS**.

BURGHMOTE, the court of a borough. By the laws of king Edgar, the burghmote was to be held thrice in the year: by those of Henry I. twelve times.

BURGLAR, } From *burg* a house, and
BURGLARY, } *larron*, a thief, or Goth. and
BURGLARER, } Sax. *bur*, a dwelling, and
BURGLARIOUS. } Goth. *lecka*, to break; but
 Norm. *Fr. lary*, from Lat. *latrocinium*, house-
 breaking, or the robbing or plundering a house.

Disperse lampoons, the only wit
 That men like *burglary* commit.

Butler's Hudibras.

Love is a burglarer, a felon,
 That at the windore-eyes does steal in. *Id.*

In the natural signification, is nothing but the robbing of a house; but, as it is a term of art, our common lawyers restrain it to robbing a house by night, or breaking in with an intent to rob, or to do some other felony. The like offence, committed by day, they call house-robbing, by a peculiar name. *Cowell.*

What say you, father? *Burglary* is but a venial sin among soldiers. *Dryden's Spanish Friar.*

BURGLAR, *burgo latrocinium*, nocturnal housebreaking, by the ancient English law, was called *hamesucken*, a word still used in the law of Scotland, but in a sense somewhat different, has always been looked upon as a very heinous offence: not only because of the terror that accompanies it, but also as it is a forcible invasion of that right of habitation, which every individual might acquire, even in a state of nature: an invasion which, in such a state, would be sure to be punished with death, unless the assailant were stronger. But, in civil society, the laws come in to the assistance of the weaker party: and, besides that they leave him this natural right of killing the aggressor, if he can, they also protect and avenge him in case the assailant is too powerful. And the law has so particular and tender a regard to the immunity of a man's house, that it styles it his castle, and will never suffer it to be violated with impunity; agreeing herein with the sentiments of ancient Rome. For this reason no outward doors can in general be broken open to execute any civil process; though in criminal causes the public safety supersedes the private. See **ARREST**. Hence also in part arises the animadversion of the law upon eaves-droppers, nuisances, and incendiaries: and to this principle it must be assigned, that a man may assemble people together lawfully (at least if they do not exceed eleven in number), without danger of raising a riot, rout, or unlawful assembly, in order to protect his house; which he is not permitted to do in any other case.

Sir Edward Coke's definition of a burglar, is, 'he that by night breaketh and entereth into a mansion-house, with intent to commit a felony.' In this definition there are four things to be considered; the time, the place, the manner, and the intent. 1. The time must be by night, and not by day; for in the day-time there is no burglary; i. e. if there be day-light or crepusculum enough, begun or left, to discern a man's face withal. But this does not extend to moonlight; for then many midnight burglaries would go unpunished: and besides, the malignity of the offence does not consist so much in its being done in the dark, as at the dead of night; when all the creation, except beasts of prey, are at rest; when sleep has disarmed the owner, and rendered his castle defenceless. 2. As to the place, it must be, according to Sir Edward Coke's definition, in a mansion or dwelling-house: for no distant barn, warehouse, or the like, are under the same privileges, nor looked upon as a man's castle of defence; nor is a breaking open of houses wherein no man resides, and which for the time being are not mansion-

houses, attended with the same circumstances of midnight terror. A house, however, wherein a man sometimes resides, and which the owner hath left only for a short season, animo revertendi, is the object of burglary, though no one be in it at the time of the fact committed. And if the barn, stable, or warehouse, be parcel of the mansion-house, though not under the same roof or contiguous, a burglary may be committed therein; for the capital house protects and privileges all its branches and appurtenants, if within the curtilage or homestall. A chamber in a college, or an inn of a court, where each inhabitant hath a distinct property, is to all other purposes as well as this, the mansion-house of the owner. So also is a room or lodging in any private house, the mansion for the time being of the lodger; if the owner doth not himself dwell in the house, or if he and the lodger enter by different outward doors. But if the owner himself lies in the house, and hath but one outward door at which he and his lodgers enter, such lodgers seem only to be inmates, and all their apartments to be parcel of the one dwelling-house of the owner.

If a man hath two houses, and resides, sometimes in one of the houses, and sometimes in the other, if the house he doth not inhabit is broken in by any person in the night, it is burglary. *Poph. 52.*

A part of a house divided from the rest, having a door of its own to the street, is a mansion-house of him who hires it. To break and enter a shop, not parcel of the mansion-house, in which the shop-keeper never lodges, but only works or trades there in the day-time, is not burglary, but only larceny; but if he, or his servant, usually or often lodge in the shop at night, it is then a mansion-house, in which a burglary may be committed. 1 H. H. P. C. 557, 558.—But see stat. 13 Geo. III. c. 38, respecting burglary in the work-shops of the plate-glass manufactory, which is made single felony, and punishable with transportation for seven years.—If the shop-keeper sleep in any part of the building, however distinct that part is from the shop, it may be alleged to be his mansion-house; provided the owner does not sleep under the same roof also. *Leach's Hawk. P. C. i. c. 38, sect. 16 in. n.*

A lodger in an inn hath a special interest in his chamber, so that if he opens his chamber-door, and takes goods in the house, and goes away, it seems not to be burglary. And where A enters into the house of B in the night, by the doors open, and breaks open a chest, and steals goods, without breaking an inner door, it is no burglary by the common law, because the chest is no part of the house; though it is felony, ousted of clergy, by statute 3 W. & M. c. 9; and if one break open a counter or cupboard, fixed to a house, it is burglary. 1. *Hale's Hist. P. C. 554.*

All out-buildings, as barns, stables, warehouses, &c. adjoining to a house, are looked upon as part thereof, and consequently burglary may be committed in them. And if the warehouse &c. be parcel of the mansion-house, and within the same, though not under the same roof, or contiguous, a burglary may be committed

therein.—But an out-house occupied with, but separated from, the dwelling-house by an open passage eight feet wide, and not within or connected by any fence, enclosing both, is not within the curtilage or homestall.

It is certainly a dangerous, if not an incurable fault, to omit the word dwelling-house in an indictment for burglary in a house. But it seems not necessary or proper, in an indictment for burglary in a church, which, by all the ancient authorities, is taken as a distinct burglary. See 1 *Hawk. P. C. c. 38, sect. 10*, and the authorities there cited.

3. As to the manner of committing burglary there must be both a breaking and an entry to complete it. But they need not be both done at once; for if a hole be broken one night, and the same, breakers enter the next night through the same they are burglars. There must be an actual breaking; as, at least, by breaking or taking out the glass of, or otherwise opening, a window; picking a lock, or opening it with a key; nay, by lifting up the latch of a door, or unloosing any other fastening which the owner has provided. Where thieves had bored a hole through the door, with a centre-bit, and part of the chips were found in the inside of the house, yet as they had neither got in themselves, nor introduced a hand or instrument for the purpose of taking the property, the entry was ruled incomplete. But if a person leave his doors or windows open, it is his own folly and negligence, and if a man enter therein, it is no burglary; yet, if he afterwards unlock an inner or chamber door, it is so. But to come down a chimney is held a burglarious entry: for that is as much closed as the nature of things will permit. So also, to knock at a door, and, upon opening it, to rush in with a felonious intent; or under pretence of taking lodgings, to fall upon the landlord and rob him; or to procure a constable to gain admittance in order to search for traitors, and then to bind the constable and rob the house; all these entries have been adjudged burglarious, though there was no actual breaking, for the law will not suffer itself to be trifled with by such evasions, especially under the cloak of legal process. As for the entry, any the least degree of it, with any part of the body, or with an instrument held in the hand, is sufficient: as, to step over the threshold, to put a hand or hook in at a window to draw out goods, or a pistol to demand one's money, are all of them burglarious entries. The entry may be before the breaking, as well as after; for by statute 12 Ann. c. 7. if a person enters into the dwelling house of another, without breaking in either by day or by night, with an intent to commit any felony, or, being in such house, shall commit felony; and shall in the night break out of the same; this is declared to be burglary. When several come with a design to commit burglary, and one does it while the rest watch near the house, here his act is, by interpretation, the act of all of them. And, upon a like ground, if a servant confederating with a rogue, let him in to rob a house, it has been determined by all the judges, upon a special verdict, that it is burglary both in the servant and the thief. *Leach's Hawk. P. C. i. c. 38, sect. 9.*

and *n.* 4. As to the intent; it is clear that such breaking and entry must be with a felonious intent, otherwise it is only a trespass. And it is the same, whether intention be actually carried into execution, or only demonstrated by some attempt or overt act, of which the jury is to judge. And therefore such breaking and entry, with intent to commit a robbery, a murder, a rape, or any other felony, is burglary. Nor does it make any difference, whether the offence were felony at common law, or only created so by statute. One of the servants of the house opened his lady's chamber-door, which was fastened with a brass bolt, with design to commit a rape; and it was ruled to be burglary, and the defendant was convicted and transported. *Stran.* 481. *Kel.* 67. A servant embezzled money intrusted to his care; left ten guineas in his trunk; quitted his master's service; returned; broke and entered the house in the night, and took away the ten guineas; and adjudged no burglar. *Leach's Hawk. P. C. i. c. 38. sect. 18. n.*

To encourage the prosecution of offenders it is enacted by stat. 10 & 11. W. III. c. 23. that whoever shall convict a burglar shall be exempted from parish and ward offices where the offence was committed. To this, stats. 5 Ann. c. 31. and 6 Geo. I. c. 23. have superadded a reward of £40. And if an accomplice, being out of prison, shall convict two or more offenders, he is entitled also to a pardon of the felonies as enumerated in the act. See stats. 25 Geo. II. c. 36. 27 Geo. III. c. 19. which provide, that the charges of prosecuting and convicting a burglar shall be paid by the treasurer of the county where the burglary was committed, to the prosecutor and poor witnesses. A certificate granted upon the conviction of an offender for burglary, exempts the party from serving the office of petty constable for a township within, but not co-extensive with the parish where the burglary was committed. *7 East's Rep.* 174.

To remove one inducement to the frequent commission of burglaries, stat. 10 Geo. III. c. 48. provides that buyers or receivers of stolen jewels, gold, or silver plate, where the stealing shall have been accompanied by burglary, or robbery, may be tried and transported for fourteen years, before the conviction of the principal. And to check this offence in its progress, stat. 23. Geo. III. c. 88. enacts, that any person apprehended, having upon him any pick-lock key, &c. or other implement with intent to commit a burglary, shall be deemed a rogue and vagabond, within stat. 17 Geo. II. c. 5.

Burglary is a felony at common law, but within the benefit of clergy. Burglary in any house belonging to the plate-glass company, with intent to steal the stock or utensils, is by statute 13 Geo. III. c. 38. declared to be single felony, and punished with transportation for seven years.

BURGOMASTER, BURGHMASTER, BOURGERMASTER, or BURGMESTER, is the chief magistrate of the great towns in Flanders, Holland, and Germany. The power and jurisdiction of the burgomaster is not the same in all places, every town having its particular customs and regulations: at Amsterdam, there are, (or at least were before

the revolution) four chosen by the voices of all those people in the senate who have either been burgomasters or echevins. They dispose of all under offices that fall in their time, keep the key of the bank, and enjoy a salary of only 500 guilders; all feasts and public entertainments, &c. being defrayed out of the common treasury.

BURGOO, or BURGOOR, a sea-faring dish, made of grits boiled in water till they burst, and then mixed with butter. Burgoo, otherwise called loblolly, is held by Cockburn very proper to correct that thickness of humors and costiveness to which the other diet of sailors much disposes them. Yet it is the least liked of all their provisions, because of the scanty allowance of butter to it.

BURGOS, a city of Spain, the capital of Old Castile, was erected into an archbishop's see in 1574. It was the residence of the counts and kings of Castile. It is surrounded with mountains, which render the air very cold nine months in the year, and during the other three months excessively hot. It is seated on the declivity of a hill, on the top of which was a strong castle, now in ruins; and the lower part of the town is watered by the Arlançon. The principal avenue to the city is by a handsome bridge over this river, which leads to a beautiful gate, adorned with the statues of several kings and heroes of Spain. The town is built in the form of a crescent, and is large and populous; but the houses are ill built, and the streets narrow and dirty, except some few, and especially that which leads to the cathedral. There are several squares, adorned with fountains and statues. The great square in the middle of the city is surrounded with excellent houses, with piazzas to each. Here are also a college, a school for the fine arts, and a physical institute. The cathedral church is a masterpiece of Gothic architecture, and one of the finest in all Spain. It was built at the beginning of the thirteenth century, by Ferdinand III., and is of such extent, that divine service can be performed in eight chapels at a time, without causing confusion. The church of the Augustines is also remarkable for its beautiful and rich chapel of the holy crucifix. There are several fine convents and nunneries; one of which is for nuns of noble extraction. Burgos, now containing about 9000 inhabitants, is said to have been very flourishing in former times. The only manufactures in existence are blankets, flannels, worsted stockings, and other woollen stuffs; and the only branch of active commerce is the exportation of the wool of Old Castile, most of which passes through the city. The suburb Debeza, on the other side of the river, and communicating with the town by three stone bridges, is more healthy and agreeable, and has a variety of beautiful gardens. Burgos was besieged unsuccessfully by the British in 1812, but surrendered to them without resistance the following year. It is 142 miles north of Toledo, and 112 north of Madrid.

BURGOYNE (John), an English general, and dramatic writer, was the natural son of Lord Bingley, and entered early into the army. In 1762 he commanded a force sent into Portugal, and distinguished himself in the American war

by the taking of Ticonderoga, but was at last obliged to surrender to general Gates, at Saratoga. Refusing to return to America pursuant to his convention, he was dismissed the British service. He was some time member of parliament for Preston, and published several pamphlets in defence of his public conduct; but is more distinguished for his dramas of the Maid of the Oaks, the Heiress, and other pieces.

BURGUNDY, a district of France, a *ci-devant* province of government, but now divided into the departments of Cote d'Or, Saone and Loire, Ain and Yonne. It derived its name from the ancient Burgunds, a German nation, by whom it was settled, about the commencement of the fifth century. In the progress of its history, it acquired great influence among the states of Europe; and some of the dukes of Burgundy were raised to the throne of France. It is between forty and fifty leagues in length, and about thirty in breadth, traversed by a mountainous ridge, which extends from Dijon to Lyons. On the east of this ridge a wide and fertile plain is bounded by the mountains of Franche-Comté and Savoy; and on the west the country is hilly and less cultivated. The soil is various, but generally rich; the Seine, the Yonne, the Ain, the Saone, the Rhone, and other large streams, all of which are navigable, are the principal rivers; and the province, being traversed by canals, enjoys the advantage of extended inland navigation. Grain, fruits, tobacco, hemp, and flax, are abundant here, the sheep reared in the more elevated parts afford excellent wool, great part of which is manufactured in the country; and the average produce of its wines (highly esteemed for their flavor) is stated at 100,000 hogsheads. The population is about 1,000,000, and the inhabitants are chiefly employed in the woollen manufactures, and those of paper, and delft-ware; in the working of coal mines; and in the melting and manufacturing of iron. The chief towns are Dijon, Auxerre, and Autun.

BURGUNDY PITCH. See **PINUS ATRIS**.

BURHAMPOUR, a city of Hindostan, the capital of the country or district of Candeish, is situated on the river Taptee, and is of large extent, but a straggling place, occupying an uneven surface; the houses are mostly built of earth, and covered with varnished tiles. There is a strong castle here, with lofty walls and battlements, strengthened by large towers. A large trade is carried on in different kinds of cotton goods. Distant 100 miles north of Aurungabad, and 452 south of Delhi.

BURIAL. The rights of burial have been looked upon in all countries, and at all times, as a debt so sacred, that such as neglected to discharge it were thought accursed: hence the Romans called them *justa*, and the Greeks *νομμα δικαία, οσια*, words implying the inviolable obligations laid upon the living to take care of the obsequies of the dead. Nor can we wonder, that the ancient Greeks and Romans were anxious about the interment of their friends, since they were persuaded that their souls could not enter the Elysian fields till their bodies were committed to the earth; and if they never obtained burial, they were excluded from those

happy mansions for 100 years. For this reason it was esteemed a duty incumbent upon all travellers who should meet with a dead body, to cast three handfuls of earth upon it; and particularly one upon the head. The ancients likewise considered it as a great misfortune if they were not laid in the sepulchres of their fathers; for which reason such as died in foreign countries had usually their ashes brought home, and interred with those of their ancestors. But there were some persons whom they thought unworthy of burial: such as, 1. Public or private enemies. 2. Such as betrayed or conspired against their country. 3. Tyrants, who were always looked upon as enemies to their country. 4. Villains guilty of sacrilege. 5. Such as died in debt, whose bodies belonged to their creditors. And 6. Some particular offenders, who suffered capital punishment. Of those who were allowed the rites of burial, some were distinguished by particular circumstances of disgrace attending their interment: thus persons killed by lightning were buried by themselves, being thought odious to the gods; those who wasted their patrimony forfeited the right of being buried in the sepulchres of their fathers; and those who were guilty of self-murder were privately deposited in the ground, without the accustomed solemnities. Among the Jews, the privilege of burial was denied only to self-murderers, who were thrown out to rot upon the ground. The place of burial among them was never particularly determined. They had graves in the town and country, upon the highways, in gardens, and upon mountains. Among the Greeks, the temples were made repositories for the dead in the primitive ages; yet the general custom in latter ages, with them, as well as with the Romans and other heathen nations, was to bury their dead without their cities, and chiefly by the highways. The primitive Christians were not, like the heathens, so concerned for their bodies, as to think it any detriment to them, if either the barbarity of an enemy, or some other accident, deprived them of this privilege. The church denied the more solemn rites of burial only to unbaptised persons, self-murderers, and excommunicated persons, who continued obstinate and impenitent, in contempt of the church's censures. Burying in cities was not allowed for the first 300 years, nor in churches for many ages after, the dead bodies being first deposited in the atrium or church-yard, and porches and porticoes of the churches; hereditary burying-places were forbidden till the twelfth century. See farther on this subject under **FUNERAL RITES**.

Burying alive was the punishment of a vestal who had violated her vow of virginity. The unhappy priestess was let down into a deep pit, with bread, water, milk, oil, a lamp burning, and a bed to lie on. But the moment she was let down, they began to cast in the earth upon her till the pit was filled up. See **VESTALS**. Some middle age writers seem to make burying alive, (*defossio*), the punishment of a woman thief. This barbarous punishment has even been used in our own country under the fendal tyranny. Lord Bacon gives instances of the resurrection of persons who have been buried alive. The fa-

mous Duns Scotus is of the number; who, having been seized with a catalepsy, was thought dead, and laid to sleep among his fathers, but raised again by his servant in whose absence he had been buried. The emperor Charles V. after his abdication, took it into his head to have his burial celebrated in his lifetime, and assisted at it. See CHARLES V.

BURIALS, REGIMENTAL. The following orders for regimental burials are taken from the army regulations:—The funeral of a field-marshal shall be saluted with three rounds of fifteen pieces of cannon, attended by six battalions, and eight squadrons.—Of a general, with three rounds of eleven pieces of cannon, four battalions, and six squadrons.—Of a lieutenant-general, with three rounds of nine pieces of cannon, three battalions, and four squadrons.—Of a major-general, with three rounds of seven pieces of cannon, two battalions, and three squadrons.—Of a brigadier-general, three rounds of five pieces of cannon, one battalion, and two squadrons.—Of a colonel, by his own battalion, or an equal number by detachment, with three rounds of small arms.—Of a lieutenant-colonel, by 300 men and officers, with three rounds of small arms.—Of a major, by 200 men and officers, with three rounds of small arms.—Of a captain, by his own company, or seventy rank and file, with three rounds of small arms.—Of a lieutenant, by one lieutenant, one serjeant, one drummer, one fifer, and thirty-six rank and file, with three rounds.—Of an ensign, by an ensign, a serjeant, and drummer, and twenty-seven rank and file, with three rounds.—Of an adjutant, surgeon, and quartermaster, the same party as an ensign.—Of a serjeant, by a serjeant, and nine rank and file, with three rounds of small arms.—Of a corporal, musician, private man, drummer, and fife, by one serjeant, and thirteen rank and file, with three rounds of small arms.—All officers, attending the funerals of even their nearest relations, shall, notwithstanding wear their regimentals, and only have a black crape round their left arm.—The pall to be supported by officers of the same rank with that of the deceased; if the number cannot be had, officers next in seniority are to supply their place.—The expense of a regimental burial is charged against the captains of the respective troops.

BURIDAN (John), a native of Bethune, in Artois, was one of the most celebrated philosophers of the fourteenth century. He was rector of the university of Paris, about A. D. 1320, and wrote commentaries on logic, morality, and Aristotle's metaphysics. Being expelled Paris by the power of the Realists, he went into Germany, where he established the university of Vienna. From him came the proverb of the Ass of Buridan, so famous in the schools. Buridan supposed an hungry ass fixed at an exactly equal distance between two bushels of oats; each of them acting equally on his senses, and desired to know what the ass would do? If he was answered, that he would remain immovable, then he concluded he would die of hunger, with food in reach. This appeared absurd, and brought the laughter on his side; but if it was replied, that the ass would not be so stupid as to die of

hunger in such a situation, then (said he), the ass has free will, or is it possible that of two equal weights, one should outweigh the other. These two consequences appeared equally absurd; and thus Buridan, by this sophism, became famous in the schools.

BURIS, a name given by Avicenna, and some other old authors, to a scurrilous hernia.

BURKE (Edmund), a distinguished writer, orator, and statesman, was born in the city of Dublin, on the 1st of January, 1730. His father, a protestant, exercised the profession of an attorney, first at Limerick, and afterwards in Dublin. Young Edmund received the rudiments of his classical education at Ballytore, in the county of Kildare, under the direction of Abraham Shackleton, a quaker of considerable talents and reputation. Under his tuition, Burke devoted himself to his studies with great ardour and perseverance, and laid the foundation of that extensive and elegant scholarship, which was alone sufficient to have illustrated his name. Mr. Shackleton lived to see his favorite pupil attain a high degree of reputation; and for near forty years that Burke paid an annual visit to Ireland, he never failed to pass a few days at Ballytore. From this respectable seminary he was sent, at the age of sixteen, to the university of Dublin. Here, however, he does not appear to have distinguished himself either by application or talents. His character, as a student, was merely negative. He exhibited no symptoms of early genius, obtained no palms in the academic race, and departed even without a degree. During this period, however, he commenced author. His first essays were of a political nature; among them were essays in ridicule of the celebrated demagogue, Dr. Lucas; but he soon afterwards directed his mind to other pursuits, particularly logic and metaphysics; and is said to have planned a refutation of the systems of Berkeley and Hume. While thus employed in treasuring up the means of attaining a species of celebrity, which far different avocations prevented him afterwards from attaining, he was not inattentive to the grand object of securing a suitable settlement in life; for his family was not opulent, and he already panted after independence. He accordingly became a candidate for the logical chair in the university of Glasgow. The immediate reason of his failure is not known; but being disappointed he repaired to the metropolis, and entered himself as a student of the Inner Temple. It is evident from his speeches, his writings, and his conversation, that he studied the grand outline of our municipal jurisprudence with particular attention; but it may be doubted whether he ever entered into the minutiae. Indeed, the versatility of his talents, and his numerous avocations, were but little calculated for that dull and plodding application which can alone lead to an intimate knowledge of our laws. Besides, if he had been gifted with the necessary application, both time and opportunity were wanting; for it is well known, that at this period of his life, the narrowness of his circumstances did not permit him to dedicate his attention solely to this, or indeed to any other single object. The limited and precarious state of his

finances called frequently for a speedy supply ; and instead of perusing the pages of Bracton, Fleta, Littleton, and Coke, he was obliged to write essays, letters, and paragraphs, for the publications of the day. But if these pursuits diverted his attention from graver studies, they enabled him to acquire a facility of composition, and a command of style and of language, which proved eminently serviceable in the subsequent part of his life. His health, however, became at length impaired, and a nervous fever ensued. This circumstance induced him to call in the aid of Dr. Nugent, one of his own countrymen, a medical man of the most amiable manners, and benevolent heart, who had travelled on the continent, and was himself an author. He at once discovered the source of his malady, and, by removing him from books and business to his own house, soon effected a cure. That event is also said to have been hastened, if not entirely completed, by a physician of another kind ; the accomplished daughter of his host. This lady was destined to become his wife ; a circumstance particularly fortunate for him, as her disposition was mild and gentle, and she continued, through a long series of years, and many vicissitudes of fortune, to soothe and tranquillise passions always violent, and often tumultuous.

Burke seems at length to have determined once more to endeavour to distinguish himself as an author ; and he accordingly took advantage of the death of lord Bolingbroke, to write a work after his manner ; in which, by exaggerating his principles, he should be enabled to bring them into contempt. In 1756 he accordingly published, without his name, *A Vindication of Natural Society*, which was so complete an imitation of the style of Bolingbroke, as for a time to impose upon the friends of that writer. Its sale, however, was not extensive. His *Essay on the Sublime and Beautiful* was attended with different success, and secured for him at once a high degree of reputation, and the countenance of several powerful friends. In addition to the profits of the publication, he is said on this occasion to have received a present from his father of £100. But his circumstances, notwithstanding, must have been greatly embarrassed, as he was obliged to sell his books. A periodical work on a new plan, first suggested in 1750, and by some attributed to the Dodslays, and by others to Mr. Burke, became, for some time, a considerable source of emolument to him. This was called the *Annual Register* ; a publication that rapidly obtained celebrity, and of which he had the superintendence for several years. In 1761 he accompanied to Ireland the gentleman well known by the name of single-speech Hamilton. Burke filled no public situation in his native country, but of both the speeches which his friend Hamilton pronounced, he was generally, though erroneously, esteemed the author. On his return from Dublin with a pension of £300, it was no longer necessary for him to write for booksellers. He, however, furnished occasional contributions to the *Public Advertiser*, the excellence of his writings in which introduced him to the notice of the marquis of Rockingham, while Mrs. Woffington recommended him to the

duke of Newcastle. He accordingly very soon became secretary to the marquis ; and having obtained a seat in parliament for Wendover, through the interest of lord Verney, he commenced his career as a leading and eloquent statesman. Nor did he spare any pains to fit himself for the situation which he was now called to fill. In point of talent and political knowledge he was already sufficiently qualified ; but he was ignorant of the forms of business, and had still to acquire the habit of expressing with ease his sentiments before a public assembly. The first of these he attained by unremitting application to the study of usages and precedents ; and the facility of giving utterance to his conception was attained by frequenting the debating clubs of the day. Among other sources of improvement, we are told, he disdained not to study the writings of the fathers, to dive into the subtleties of the school divines, and to engage in the rhetorical combats of the Robin Hood Society. At the time when Burke entered on public life, the public mind was a good deal agitated by the measures of government relative to Wilkes, and by the growing discontents of America. Of the two parties who were opposed to each other, Mr. Pitt's being the more inflexible, as to the necessity of diminishing the influence of court favorites and secret advisers, the duke of Newcastle's, with the marquis of Rockingham as its ostensible leader, came into power : on this occasion Mr. Burke seceded from the interests and friendship of Hamilton, resigning the pension which he owed to his patronage. The nature and extent of the favors he received from the marquis of Rockingham have been variously represented ; but it is believed that a considerable portion, if not the whole, of the purchase-money for his villa at Beaconsfield, was advanced, either as a loan or a gift by that nobleman. The first speech which Burke made in the house of commons was on the famous stamp act ; and it was so eloquent and masterly as to attract the attention and command the applause of Mr. Pitt. Mr. Burke was principally consulted by the Rockingham administration in the affairs of America, and the moderate course which they followed was adopted in conformity to his advice. The weakness of the party, however, and the tame and feeble policy which they pursued, soon brought its administration to a close. On this occasion Mr. Burke produced his *Short Account of a Short Administration*. Mr. Pitt now came into power, having made, as he imagined, his own terms with the court ; but his views so little accorded with those of the executive, that he held the reins of government only a very short time. The Grafton administration succeeded, and Burke, being re-elected for Wendover, became the principal orator of opposition.

The period of lord North's premiership forms the most brilliant epoch of Mr. Burke's life. He was hostile to the expulsion of Mr. Wilkes ; an act which the house of commons afterwards rescinded from its records. About this period he published his *Thoughts on the Present Discontents*, in which his sentiments on the nature of the constitution are fully stated. On the application of the Dissenters for relief, he took up

their cause, and expressed his resentment, in very animated terms, against that misguided policy, which permits all those not within the pale of the establishment to enjoy liberty, less by right than by connivance. But perhaps the noblest part of his conduct consisted in his steady and uniform opposition to the American war, and his marked and declared hostility to the abettors of it. His speech against the Boston port bill was one of the most noble specimens of oratory that have ever been exhibited in the British senate. On the 19th of April, 1774, on a motion for the repeal of the tea duty, he also spoke admirably; and when, in reply to a member who had observed, 'That the Americans were our children, and it was horrible for them to revolt against their parent!' the orator uttered the following passage—the whole house was electrified:—'They are our children, it is true; but when children ask for bread, we are not to give them a stone. When those children of ours wish to assimilate with their parent, and to respect the beauteous countenance of British liberty, are we to turn to them the shameful parts of the constitution? Are we to give them our weakness for their strength; our opprobrium for their glory; and the slough of slavery, which we are not able to work off, to serve them for their freedom?' The people of Bristol, gratified by the exertions of Mr. Burke in behalf of civil and religious freedom, put him in nomination for their city, and sent into Yorkshire to request his immediate personal attendance. After consulting with his patron concerning an offer so flattering and unexpected, accompanied at the same time with assurances, most punctually fulfilled, that he should be put to no expense whatever, he immediately set out for the west of England, and found that no less than three candidates had started before him. The first was lord Clare, afterwards lord Nugent, one of the former representatives, whose unpopularity was such, that he soon discovered the necessity of resigning all his pretensions. The new candidate did not appear on the hustings until the afternoon of the sixth day's poll, on which occasion he addressed the electors in a very able speech; and, on the conclusion of the election in his favor, made the most brilliant address on the occasion that had ever been heard within the walls of a provincial city. Mr. Burke immediately returned from his new constituents to parliament with increased vigor, reputation, and zeal. The earl of Chatham having failed, notwithstanding his reputation for wisdom, in an attempt to adjust the troubles of the colonies, by means of a conciliatory bill introduced by him into the house of peers for that purpose, the obstinacy of the ministry now became apparent to every one. This circumstance, which would have appalled an inferior man, did not, however, discourage the member for Bristol from a similar attempt in another place; and, accordingly, March 22d, 1775, he brought forward his thirteen celebrated propositions, which were intended to close the fatal breach, and heal all the differences between the mother country and her colonies. His plan, on this occasion, embraced not only an immediate conciliation, by a repeal of the late coercive

acts, but also the creation of an independent judicature, and the regulation of the courts of admiralty. The whole, however, was quashed by a large majority on the side of the minister, who moved the previous question. Parliament was dissolved in 1780, but Mr. Burke was not re-elected for Bristol, an event which is said to have made a deep impression on his mind. This must, however, have been obliterated by the important events that speedily ensued, for the minister now tottered on the treasury bench, being abandoned by many of his staunchest supporters, and but little confident in his own schemes, all of which had proved eminently unsuccessful. The opposition unceasingly assailed him, until on March 28th, 1782, lord North assured the house of commons that his administration was at an end. The day had now arrived when the ministry and opposition were to change places, and the former to be arrayed in the spoils of the latter. Of this rich booty, Mr. Burke, whose services had been so conspicuous in hunting the enemy into the toils prepared for them, had his portion; for he was made a privy counsellor, and invested with the lucrative appointment of paymaster-general of the forces. He was now at length enabled to enforce his plan of political economy, tendered before in vain; and the board of trade, the board of works, and the offices of the six clerks of the board of green cloth, third secretary of state, treasurer of the chamber, cofferer of the household, the lords of police in Scotland, the master of the harriers, the master of the stag hounds, and the paymaster of the pensions, were abolished. At length the reins of government were confined to the hands of the marquis of Lansdowne, then earl Shelburne; and this event gave such offence to those who wished to place the duke of Portland at the head of affairs, that Mr. Fox, lord John Cavendish, and Mr. Burke, immediately resigned. In the mean time, the critical state of the English East India Company, which had long agitated the public mind, became occasionally a subject of discussion in parliament. The seizure, imprisonment, and confinement of lord Pigot, by a faction in the council of Madras; the conduct of Mr. Hastings, in respect to several of the native powers; the grand question of sovereignty, relative to the territorial possessions of the Company in Asia, were subjects which had, at different times excited the attention of the nation. No sooner did Mr. Fox behold himself and his friends in possession of power, than he brought in a bill to remedy the various abuses in the government of British India. Of this bill Mr. Burke is well known to have been the principal penman; and he certainly defended its principles and provisions with all the zeal of a parent. In a speech of considerable length he exhibited an able retrospect of the system, both political and commercial, of the Company; after which he proceeded to state the benefits likely to result from the plan under contemplation, which he considered as calculated to effect 'the rescue of the greatest number of the human race that ever were so grievously oppressed, from the greatest tyranny that ever was exercised.' In short, he contemplated it as a measure that would 'secure

the rice in his pot to every man in India.' 'I carry my mind,' (adds he), 'to all the people, and all the names and descriptions that, relieved by this bill, will bless the labors of this parliament, and the confidence which the best house of commons has given to him who best deserves it.' This celebrated bill, notwithstanding much opposition both within and without, was carried triumphantly through the house of commons; but in the house of peers it experienced a far different fate, and with it fell the power and consequence of its authors, framers, and supporters.

In the course of the next year (February 28th, 1785,) Mr. Burke made an eloquent speech relative to the nabob of Arcot's debts, and described one of his creditors, who had taken an active share in the late elections, 'as a criminal who long since ought to have fattened the region kites with his offal: the old betrayer, insulter, oppressor, and scourge of a country (Tanjore) which had for years been an object of an unremitted, but unhappily an unequal struggle, between the bounties of Providence to renovate, and the wickedness of mankind to destroy.' But there appeared to Mr. Burke to be a still greater delinquent, on whom he was determined to inflict all the wounds of his eloquence, and sacrifice, if possible, the powerful offender himself at the shrine of national vengeance. This was Mr. Hastings; and, soon after the arrival of that gentleman in England, the orator gave notice of his intentions. On the 17th of Feb. 1785 he opened the accusation by a most eloquent speech; in which he depicted the supposed crimes of the late governor-general, in the most glowing and animated colors. The result of this trial, however, was far different from his hopes and expectations; while the length of it failed not to involve both himself and his party in great reproach.

During the debate on the commercial treaty with France (January 23d, 1787,) Mr. Burke pointed his ridicule with no common success at Mr. Pitt, who, according to him, contemplated the subject with a narrowness peculiar to limited minds:—'He seems to consider it,' (adds he), 'as an affair of two little counting houses, and not of two great nations. He seems to consider it as a contention between the sign of the fleur-de-lis, and the sign of the old red lion, for which should obtain the best custom.' The next public event of importance in which we find Mr. Burke engaged, occurred in consequence of his majesty's indisposition. On this occasion he is supposed to have penned a letter for one, and a speech for another, branch of the royal family. When Mr. Pitt moved his declaratory resolutions relative to the provisional exercise of the royal authority, he attacked him with much asperity of language, and was particularly severe on the manner in which the royal assent was to be given to all future acts of parliament. The men who held most of the high places under the government were treated as 'jobbers, old hacks of the court, and the supporters and betrayers of all parties; and it was a mock crown, a tinsel robe, and a sceptre from the theatre, lacerated over and unreal,' which were about to be conferred on the prince of Wales.

But other scenes and connexions now awaited our orator. The opposition, though lessened by a few occasional desertions, had hitherto acted as a great public body, supposed to be united in general principles, for the common welfare and prosperity of the state; but the French revolution thinned their ranks, diminished their consequence, and, by sowing jealousy between the chiefs, spread consternation and dismay among their followers. It was on the 2d of March, 1790, when Mr. Fox moved for leave to bring in a bill to repeal the corporation and test-acts, that this disunion became evident; and soon after this Mr. Burke declared, 'that his honorable friend and he were separated in their politics for ever.' The ministry now seemed anxious to provide for their new associate; and he, on his part, certainly appeared deserving of some remuneration at their hands, for he had abandoned all his old friends, and, as his enemies maintained, not a few of his old principles. In addition to this, his Reflections on the Revolution in France had afforded some degree of countenance, and even popularity, to the measures of administration: and, not content with his own exertions, he had enlisted his son on the same side, and even sent him to Coblenz. Mr. Burke followed up this publication by a Letter to a Member of the National Assembly, in 1791; An Appeal from the New Whigs to the Old; Letter to a Noble Lord on the Subject in Discussion with the Duke of Bedford; Thoughts on a Regicide Peace; and several private memorials; all displaying his usual vigour of mind, connected occasionally with the infirmity of attempting to enforce truth by temper. In 1792 he published a Letter to Sir Hercules Langrishe, on the Propriety of admitting Roman Catholics to the Elective Franchise; and in 1794 withdrew from parliament. The royal munificence at length gratified his warmest wishes; for by a warrant dated September 24th, 1795, and made to commence January 5th, 1793, he received a pension of £1200 for his own life, and that of his wife, on the civil list; while two other pensions of £2500 a-year for three lives, payable out of the four and a half per cent. fund, dated October 24th, 1795, were made to commence from July 24th, 1793. Honors as well as wealth seemed also now to await him, for he was about to be ennobled; but the untimely death of an only child put an end to all his dreams of ambition, and contributed not a little to hasten his own, which occurred at his house at Beaconsfield, July 8th, 1797, in the sixty-eighth year of his age.

We are not ourselves removed to a sufficient distance from the political whirlpool in which Burke was involved, to estimate his public character, perhaps, fairly. By one class of writers he has been eulogised extravagantly: and we are said to be indebted to his later writings for our very monarchy, and our political existence. To them every thing is clear, and oracular in his arguments; every thing in his conduct patriotic and becoming. Others have represented him as at best but a splendid declaimer and time-server; whose oratory was dazzling and delusive, never logical, never addressed to the judgment, and often wearisome to his warmest friends. His

published works will be the best resource of the reader to form his judgment on the latter point; and the whole of his political career will long form a useful study, and the best illustration of his character.

As a private individual, he was benevolent and humane. By his liberality and extensive influence, a school was established in his neighbourhood, for the education of those whose parents were unable to afford them useful tuition; and he warmly encouraged, and frequently superintended, benefit clubs among the laborers and mechanics. He was a fond and attentive husband, an affectionate and indulgent father, a sincere, fervid, and active friend, a liberal and kind master. Throughout his whole life he was extremely temperate and studious, consecrating to the improvement of his faculties, and the extension of his knowledge, the greater part of those hours which were not employed in public business. As a literary character, his dissertation on the Sublime and Beautiful will always rank him among the classical authorities of our language. His political tracts exhibit boundless reading, deep thought, and uncommon sagacity; and there is hardly any species of composition which he has not attempted. His first and his last days, it is remarkable, were equally dedicated to literature. We cannot conclude this sketch of Burke, without inserting the well-known epitaph written for him by Goldsmith:—

Here lies our good Edmund, whose genius was such,
We scarcely can praise it or blame it too much;
Who, born for the universe, narrowed his mind,
And to party gave up what was meant for mankind.
Though fraught with all learning, yet straining his throat

To persuade Tommy Townshend to lend him a vote;
Who, too deep for his hearers, still went on refining,
And thought of convincing while they thought of dining;

Though equal to all things, for all things unfit,
Too nice for a statesman, too proud for a wit;
For a patriot too cool; for a drudge disobedient;
And too foud of the right, to pursue the expedient.
In short, 'twas his fate, unemployed or in place, Sir,
To eat mutton cold, and cut blocks with a razor.

The entire works of this great man have been published by his executors in 5 vols. 4to., and 10 vols. 8vo.

BURKE, a mountainous county of North Carolina, in the district of Morgan; bounded on the north by Wilkes, on the east by Iredell, on the south by Rutherford, and on the west by Buncomb, counties. Morgantown is the chief town.

BURKITT (William), a celebrated commentator on the New Testament, was born at Hitcham in Northamptonshire, July 25th 1650, and educated at Cambridge. He entered very early upon the ministry, at Milden in Suffolk, where he continued twenty-one years, first as curate, and afterwards as rector of that church. In 1692 he was appointed to the vicarage of Dedham, in Essex, where he continued till his death, October 1703. He made great collections for the French Protestants in the years 1687 &c. and procured a

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minister to go and settle in Carolina. Among other charities, by his last will he bequeathed the house wherein he lived, with the lands belonging to it, in perpetuity, to the lecturer at Dedham. Besides his Commentary, he wrote a work entitled, *The Poor Man's Help*, and *Rich Man's Guide*.

BURL', } *Fr. bourreler*; to raise the nap on
BURLER. } cloth with a bur or thistle. Johnson says to dress cloth, as fullers do.

BURLAMAQUI (John James), an illustrious civilian, born at Geneva, and professor of civil law there. Prince Frederick of Hesse-Cassel, being his pupil, took him with him in 1734, and detained him several years. On his return to Geneva, he was named counsellor of state, and died there in 1743. His *Principles of Natural Law* first raised his fame; and are said to contain the essence of Puffendorf, Grotius, and Barbeyrac. He wrote also *The principles of Political Law*. Both are written in French.

BURLESQUE', *v., n. s., & adj.* } Ital. *bur-*
BURLETTA. } *lesco*, Fren.
burlesque, from Ital. *burtare*, Swed. *borla*, to jest, to amuse. Ridicule, lampoonery; tending to raise laughter by unnatural or unsuitable language or images. Burletta, a theatrical amusement of a light kind.

When a man lays out a twelvemonth on the spots in the sun, however noble his speculations may be, they are very apt to fall into *burlesque*.

Addison on Ancient Medals.

Would Homer apply the epithet divine to a modern swineherd? if not, it is an evidence that Eumecus was a man of consequence; otherwise Homer would *burlesque* his own poetry. *Broomie's Notes on the Odyssey.*

The new *burletta* 's now the thing!

Pray did you never hear me sing?

'Never indeed.' *Cambridge. The Intruder.*

BURLESQUE, in composition, is distinguished into *burlesque* that excites laughter merely, and *burlesque* that excites derision or ridicule. A grave subject, in which there is no impropriety, may be brought down by a certain coloring to be risible, as in *Virgil Travestie*; the author first laughs at every turn in order to make his readers laugh. The *Lutrin* is a *burlesque* poem of the other sort, laying hold of a low and trifling incident to expose the luxury, indolence, and contentious spirit, of a set of monks. Boileau, the author, turns the subject into ridicule, by dressing it in the heroic style, and affecting to consider it as of the utmost dignity and importance. Though ridicule is the poet's aim, he always carries a grave face, and never once betrays a smile. The opposition between the subject and the manner of handling it, is what produces the ridicule; and therefore, in a composition of this kind, no image professedly ludicrous ought to be admitted, because such images destroy the contrast. Though the *burlesque* that aims at ridicule produces its effects by elevating the style far above the subject; yet the poet ought to confine himself to such images as are lively, and readily apprehended. A strained elevation, soaring above the ordinary reach of fancy, makes

not a pleasant impression. The mind is disgusted by being kept long on the stretch.

BURLINGTON, or BRIDLINGTON, is a seaport and bathing town of the east riding of Yorkshire. It is built on the shore of a bay, to which it gives name, which is found to be a safe harbour for vessels, when the wind is strong from the N. N. W. and north-east, being secured by two projecting piers of considerable extent, running out obliquely into the sea, and rendering the entrance narrow. The principal trading vessels are colliers. Here was formerly a priory of black canons, founded in the reign of Henry I. by Walter de Gaunt. What remains of the church shows it to have been a noble structure; but the choir, transepts, and steeple, have been entirely destroyed. A Mr. William Hustler was a considerable benefactor to the town; and in the sixteenth of Charles II. Richard Boyle baron Clifford, received the title of earl from this town. In the eighth of William III., and first George I. acts of parliament were obtained to repair the piers, &c. of the harbour. Burlington quay, to which genteel company resort for bathing, constitutes of itself a small town, and has a brisk and handsome appearance. The houses are in general well built, and the principal street, that opens directly on the harbour, is remarkably broad. The northernmost pier has an agreeable platform, commanding a delightful view of Flamborough Head, which is often crowded with coasting vessels. The mineral springs here are reckoned efficacious for several diseases. There is a weekly market at Burlington on Saturday, at which a great deal of corn is sometimes sold. It lies at about ten miles south-west of Flamborough Head, forty east of York, and 206 north from London.

BURLINGTON, a large maritime county of the United States, in New Jersey, fifty-five miles in length from the mouth of Mullicus river to Trenton, and twenty-eight in breadth. It is bounded on the north-east by Middlesex and Monmouth counties, north-west by Hunterdon, and Delaware river, which separates it from Pennsylvania, south-east, by the Atlantic, south and south-west by Gloucester county; and is divided into eleven townships, viz., Chesterfield, Nottingham, Little Egg-harbour, Evesham, New-Hanover, Chester, Springfield, Northampton, Mansfield, Burlington, and Williamsborough. The north-east boundary of this county was the old divisional line of East and West Jersey. The interior part of the county is one extensive forest of pine trees, and the whole is abundant in grain and provisions. It also carries on a considerable commerce in hides, oil, whalebone and fish.

BURLINGTON city, the capital of the preceding county. It is situated partly on an island so called, and partly on the south-east side of the Delaware, and extends, according to its charter, one mile back, and three miles along the river. The island, which is the most populous part of the town, is a mile and a quarter in length, and three quarters of a mile in breadth. It communicates with the main land by four bridges and causeways, two of which, York and London bridges, are respectable structures. Few of the blacks are slaves; the main streets are regular

and spacious, and generally ornamented with trees in the front of the houses. The Delaware, opposite the town, is nearly a mile wide, and under shelter of Mutinieuwck, and Burlington island, affords a safe and convenient harbour. It is advantageously situated for trade, but is too near Philadelphia to admit of an extensive commerce. The public buildings are the market-houses, a court-house, and jail, which is reckoned the strongest in the state; besides several places of public worship. The Friends are numerous here. The academy is under the direction of seven trustees, and two preceptors.

The island of Burlington was laid out, and the first settlement established about the year 1677, five years after Mutinieuwck or Free School island was given for the use of the island of Burlington. The city was a free port under the state government; but has been established by Congress a port of entry, and a collector appointed for it. However, carrying on little foreign trade, its principal intercourse is with Philadelphia. It is twenty miles north-east of Philadelphia by water, and seventeen by land.

BURLINGTON, the capital of Chittendon county, Vermont, is beautifully situated on Lake Champlain at the confluence of Onion river. A law was passed by the legislature of Vermont, the 2nd of November, 1791, for founding a university in this town. Large subscriptions and donations of land and other property, have been made by individuals, for the purpose of erecting convenient buildings, and establishing a fund. From the agreeableness of the situation, and the salubrity of the climate, there is little doubt but it will become an institution of much utility. It is 130 miles north of Bennington, 320 north by east of New York, and 425 N. N. E. of Philadelphia.

BURLY, *n. & adj.* } Swed. *orolig*, be *orolig*,
BURLINESS. } the contrary of *ro hero*,
repose, quietness. Big, rustic, rude. Properly
bourly.

Thanne Jupiter right faire and amiable
God of the sterres in the firmament,
And norice to all thing generable,
Pro his father Saturne fare different
With *burly* face, and browes bright and brent.

Chaucer. *The Testament of Cresseide*, fol. 195.

His *burly* brand that helped him oft in need,
Right privily he hid it under that weed.

Henry the Minstrel, in *Ellia*.

Steel, if thou turn thine edge, or cut not out the
burly boned clown in chins of beef, ere thou sleep in
thy sheath, I beseech Jove, that thou mayest be turned
into hobnails.

Shakspeare.

It was the orator's own *burly* way of nonsense.

Cowley.

Her husband being a very *burly* man, she thought
it would be less trouble for her to bring away little
Cupid.

Addison.

And some ascribe the' invention to a priest,
Burly and big, and studious of his ease.

Cowper. *Task*, bk. i.

BURMAN (Francis), a protestant minister, and professor of divinity at Utrecht, was born at Leyden in 1628; and died on the 10th of November, 1679, after having published a course of divinity, and several other works. His son Francis was also an author.

BURMAN (Peter), son of the preceding, professor of history and eloquence, in the university

of Leyden, and rector magnificus of that university. He first began to study the law, and, after a year's application, took his degree of doctor in that faculty, on which occasion he published a dissertation *De Transactionibus*. In 1691 he was appointed collector of the tithes, and in 1696 was chosen professor of eloquence and history at Utrecht, to which was afterwards added the Greek professorship. The university of Leyden now invited him to the professorships of history, eloquence, and Greek, vacant by the death of Perizonius, which he accepted. He filled the office of rector twice, and when the professorship of history of the United Provinces became vacant, it was conferred upon him, together with the post of chief librarian. He died in 1741. He was the author of several noted editions of the classics, the principal of which are—1. *Phædrus*, 4to. 2. *Quintilian*, 2 vols. 4to. 3. *Valerius*

Flaccus, 12mo. 4. *Ovid*, 4 vols. 4to. 5. *Poeta Latine minores*, 2 vols. 4to. 6. *Velleius Paterculus*, 2 vols. 8vo. 7. *Virgil*, 4 vols. 4to. 8. *Suetonius*, 2 vols. 4to. 9. *Lucan*, 4to. 10. *Buchanani Opera*, 2 vols. 4to.

BURMANNIA, in botany, a genus of the monogynia order, and hexandria class of plants; natural order, tenth, coronariæ. The flower is small, and consists of three minute, ovated, oblong petals, situated at the mouth of the cup; the fruit is an involuted capsule, of a cylindraceo-trigonal figure, formed of three valves, with three cells, containing many small seeds. There are two species.

BURMANNIANA, in entomology, a species of *phalæna*, tortrix. The wings are pale, with four black spots on the anterior pair. Found in Surinam.

BURMHAN EMPIRE.

THE BURMHAN, or Birman Empire, called also from its former capital, the kingdom of Ava, is an important modern state of India, beyond the Ganges, lying between the ninth and twenty-sixth degrees of north latitude, and between the 92d and 104th degree of east longitude. It is composed of the original territory of the Burmese, surrounded by the subjugated provinces of Arracan on the west, Pegu, Martaban and Tenasserim on the south, part of Siam east and north, and Cassay on the north-west, the whole being bounded by the empire of China and British India north and west, by the Siam coast and the Indian Ocean south. It is described, by the most recent account, as about 1000 miles in length, and 700 in breadth, containing 194,000 square miles, and forming the most extensive native sovereignty of India.

On the frontiers of Chittagong, between the Nauf and the north end of the Negrais, are several excellent harbours, as well as in the Mergui archipelago: amongst these, Negrais and Rangoon are mentioned as the best. Its principal rivers are the Airavati, or Erawadi, the Loking, the Kendenwen, the Pegue, and the Martaban; but it has many others of less note. Between the last two is a lake, whence two other streams proceed, one of which runs northward to Old Ava, and the other south to the ocean.

The Erawadi, or Airavati, the Elephantine River, so called from its noble size, or the vast herds of elephants which crowd its banks, is the Kiang-nà, or Great Fish River, of China. It enters the Burmhan empire, receives a branch of the Brahma-putra, and proceeds to the south-east till it joins another stream from Chû-dzong, in about the twenty-sixth degree of north latitude. Below Ava it receives another accession of some magnitude, in the K'hyén-dwen, a stream which rises in the lower range of mountains on the confines of Assam. The Erawadi now flows west, and round to the south, then in a south and easterly direction, till within 130 geographical miles from the sea it forms a Delta of low lands, the basis of which, between Syriam

and the western mountains of Môdén, is nearly 110 geographical miles. This stream is inferior only to the Ganges in importance. It is subject in the hot summer months to extraordinary inundations; the wise economy of Providence providing, in the melting of the snows of the mountains throughout this season, a fertilising and powerful current for the refreshment of those vast regions here which are rarely visited with rain. The Loking is a powerful stream, though far inferior to the Erawadi, to the north-west of which it rises, in the Chinese provinces, running through Pegu, and falling into the sea of Martaban.

Exclusive of the Delta of the Erawadi there are few low lands in these dominions. A range of hills stretches on the western side from about thirteen degrees north, to nearly nineteen degrees north and south; eastward another ridge, beginning on the Chinese limit, near the banks of the Erawadi, between Ava and B'láumò, runs southward till it nearly reaches the sea. Dr. Buchanan speaks of this range as attaining an altitude of nearly 5000 feet, in the neighbourhood of Amarapura, or Ummerapoor, the present capital of this empire. Tracts of hilly country also extend on each side of the Mekong river; and another chain rises opposite to Old Ava, and traverses the country northward, separating Cassay from Siam.

The climate is comparatively healthy and dry, and the seasons pretty regular. Just before the rains commence the heat is most intense. Colonel Symes found the thermometer at 98° about noon at this season. There are occasionally rapid transitions from cold to heat, and, as in all warm countries, the air in the forests and their vicinity is frequently charged with pestilential vapors.

The soil of the southern provinces is remarkably fertile, producing as luxuriant crops of rice as are to be found in any part of India; but extensive plains are seen, on which the feeble traces of cultivation are contrasted with the deeper impressions of barbarous warfare, and the

ruinous haunts of wild beasts. In the more northern and mountainous parts of the empire, the teak and the fir tree abound; the latter is valued only for its turpentine, but the former, which is also found on the margin of all the great streams southward, is the monarch of the forest here, and for hardness, if for not durability, exceeding our English oak. The plains and valleys every where, but particularly near the rivers, are exceedingly fruitful, and yield good wheat, and the various kinds of small grain and legumes of Hindostan. Sugar-canes, tobacco of superior quality, indigo, cotton, and the different tropical fruits, are all indigenous. In a district named Palongmiou, to the north-east of Ummerapoore, the tea-leaf grows, but it is very inferior to that of China, and is seldom used but as a pickle.

This empire is abundant in minerals. Near the Chinese frontier, at Badouem or Bodwin, six days journey from Bamoo, are mines of gold and silver; and in the neighbourhood of Ummerapoore, in the Woobolootan mountain, are the largest ruby and sapphire mines, perhaps, in the world. Precious stones are found in every part of the empire, together with iron, copper, lead, tin, antimony, arsenic and sulphur. Gold is also sifted from the mountain streams; and very fine amber, dug up in large quantities near the Erawadi. Quarries of the most beautiful marble, equal to the finest Italian specimens, are open within a few miles of the seat of the government, which monopolises it as sacred, and the petroleum of the Yanangum wells, is an article of very extensive use and commerce.

These wells are situated in N. lat. 20° 26', and E. long. 94° 25'. 'The wells we saw,' says Captain Cox, 'are scattered irregularly about the downs at no great distance from each other; some, perhaps, not more than thirty or forty yards. At this particular place, we were informed, that there are 180 wells; and four or five miles to the north-east there are 340 more. In making a well, the hill is cut down, so as to form a square table of fourteen or twenty feet for the crown of the well, and from this table a road is formed by scraping away an inclined plane for the drawers to descend, in raising the excavated earth from the well, and subsequently the oil. The shaft is sunk of a square form, and lined as the miner proceeds with squares of cassia wood staves; these staves are about six feet long, six inches broad, and two thick, and are rudely jointed and pinned at right angles to each other, forming a square frame about four feet and a half in the clear for the uppermost ones, but more contracted below. When a miner has pierced six or more feet of the shaft, a series of these square frames are piled on each other, and regularly added to, at top; the whole gradually sinking as he deepens the shaft, and securing him against the falling in of the sides. The soil or strata to be pierced is, first, a light sandy loam intermixed with fragments of quartz, siliceous, &c. Secondly, a friable sand-stone easily wrought, with thin horizontal strata of a concrete of martial ore, talc, and indurated argil, at from ten or fifteen feet from the surface, and also from each other, as there are several of these veins in the great body of free-stone. The talc

has this singularity; it is denticulated, its laminae being perpendicular to the horizontal lamina of the argil on which it is seated. Thirdly, at twenty cubits, more or less, from the surface, and immediately below the free-stone, a pale blue argillaceous earth (schista) appears, impregnated with the petroleum, and smelling strongly of it. This, they say, is very difficult to work, and grows harder as they get deeper, ending in schist and slate, such as is found covering veins of coal in Europe. Below this schist, at the depth of 130 cubits, is coal. I procured some, intermixed with sulphur and pyrites, which had been taken from a well deepened a few days before my arrival; but deemed amongst them a rarity, as they are seldom obliged to proceed to such a depth. They were piercing a new well when I was there; and had got to the depth of eighty cubits, and expected oil at ten or twenty cubits more.

'The machinery used in drawing up the rubbish, and afterwards the oil, from the well, is an axle crossing the centre of the well, resting on two rude forked stanchions, with a revolving barrel on its centre, like the nave of a wheel, in which is a score for receiving the draw-rope; the bucket is of wicker work, covered with dammer; and the labor of the drawers, consisting in general of three men, is facilitated by the descent of the inclined plane, as water is drawn from deep wells in Hindostan. To receive the oil one man is stationed at the brink of the well, who empties the bucket into a channel made on the surface of the earth leading to a sunken jar, from whence it is laded into smaller ones, and immediately carried down to the river, either by coolies or on hackeries, common carts. When a well grows dry, they deepen it. They say, none are abandoned for barrenness. Even the death of a miner from mephitic air does not deter others from persisting in deepening them when dry. Two days before my arrival, a man was suffocated in one of the wells; yet they afterwards renewed their attempts without further accident. I recommended trying the air with a candle, &c., with seemingly little effect. The oil is drawn pure from the wells in the liquid state, as used, without variation: possessing all the properties of coal tar, being in fact the self-same thing; the only difference is, that Nature elaborates, in the bowels of the earth, that for the Burmese, for which European nations are obliged to the ingenuity of Lord Dundonald.'

The average produce of each well, according to Captain Cox, appears to be 793 hogsheads, or 49,957 gallons per annum; there are 520 wells registered by government: the gross amount therefore of the whole annual produce will be 412,360 hogsheads, worth, on the spot, 889,737 siccah rupees, or £111,212.

In their agriculture, the Burmese are very careless and superficial; but their draft cattle are remarkably good, and well attended to. Two are employed at plough, which turns up the earth but a few inches: in their large carts are put four strong oxen, which the girls generally drive, and with considerable dexterity.

The commerce of the empire is very extensive. Between the capital and Yunan in China, a con-

considerable export trade is carried on in cotton, of which there are two kinds, one of a brown color, of which nankeens are made, the other white, like the cotton of India. It is transported up the Erawadi in large boats, as far as a place called Bamoo, where it is bartered with the Chinese merchants, who convey it forward partly by land and partly by water. Amber, ivory, precious stones, betel nut, and the edible nuts, brought from the eastern archipelago, are also articles of commerce. In return the Burmese procure raw and wrought silks, gold leaf, preserves, paper, and hardware utensils. The inland commerce is also brisk, particularly in provision. Several thousand boats are employed in transporting rice and salt from the south, to supply the capital and the northern districts. The Erawadi is the great channel of importation. Here arrive European broad cloth and hardware, coarse muslins and silk handkerchiefs, and china and glass from Bengal. Small quantities of silver, lac, and precious stones are also exported. The teak timber forms the most important article of commerce between Ava and the British dominions. The quantity imported into Calcutta and Madras in 1795, according to Col. Symes, was valued at £200,000. All the forests that yield this timber being the exclusive property of the royal family, the trade is monopolised, and the prices liable, consequently, to great fluctuations. The Shinbin teak planks, in 1812, were sold for three times the sum that had been previously demanded for them. Ships are built and sent out for sale at Negrais, Rangoon, &c. of this timber; the Burmese possessing the whole of the eastern side of the bay of Bengal, as well as other convenient places for ship building. Col. Symes saw several vessels on the stocks at Rangoon of from 600 to 1000 tons burden. The tonnage of vessels annually built in the empire has been taken at 3000 tons.

The Burmese, like the Chinese, merchants have no coin: silver in bullion and lead being the current monies of the country. What foreigners call a tackle, properly *kiat*, is the most general silver piece in circulation: it weighs ten pennyweights, ten grains and three-fourths. The subordinate currency is lead, in which all common market articles, such as fish, flesh, rice, greens, &c. are paid for. Lead and silver, being royal monopolies, are often raised in the markets far above their intrinsic value. It is necessary for every merchant to have a banker to manage his money transactions, who is responsible for the quality of the metal, and charges a commission of one per cent., but the currency fluctuates in value so much, that the utmost watchfulness cannot secure anything like a steady profit to the inexperienced foreign merchants.

A tenth of all produce is exacted as the authorised due of the government, and one-tenth is the amount of the king's duty on all foreign goods imported. The revenue, arising from customs on imports, is mostly taken in kind. A small part is converted into cash, the rest is distributed and received in lieu of salaries to the various departments of the court. Bullion, except on pressing occasions, is never disbursed from the royal coffers. To one man the fees of an office

are allowed; to another, a station where certain imports are collected, and a third has land in proportion to the importance of his employment. They are all called the slaves of the king; and, in their turn, have vassals denominated their slaves. Although it seems almost impossible, under such a system, to ascertain in any standard currency the amount of the royal revenue, yet the riches of the Burmhan sovereign are said to be immense, which is rendered probable by the circumstance, that a very small portion of what enters his exchequer, ever again returns into circulation—the hoarding of money being a favorite maxim of oriental state policy.

The manufactures of this empire consist chiefly of cotton and silk goods, saltpetre, gunpowder, pottery, and the marble statues of their idols. Colonel Symes saw thirty or forty large yards in a village crowded with statues at work on images of Godama, various sizes, sitting cross-legged on a pedestal. The quarries from which they obtain the materials, were only a few miles distant. It was brought thither in blocks. The smallest exceeded the human stature, and the price was said to be 100 tackals, or about twelve or thirteen pounds sterling; but some diminutive images were sold as low as two or three tackals. The workmen were very civil and communicative. Their tools were a chissel and a mallet, and they smooth the images with freestone and water. Many were beautifully polished, which is said to be done by rubbing the marble with three different kinds of stone; the first rough, the second finer, and the third such as hones are made of. The workmen afterwards use the palms of their hands in polishing, which gives the images a transparent clearness far surpassing the brightest European marble.

On the subject of vitrification, which is but partially known here, Colonel Symes mentions the following curious and interesting fact: 'The Burmhan monarch,' says he, 'who is a great admirer of this manufacture, was particularly desirous to introduce it into his own dominions; and, supposing that every Englishman must be versed in the knowledge of making whatever comes from his own country, he sent a message to request that I would furnish his artificers with such instructions as might enable them to fabricate glass of a quality equal to what was made in England. Unluckily none of us happened to be skilled in the mystery of a glass-house; all, therefore, that we could do, was to explain the principles of the art, which Dr. Buchanan obligingly undertook; and, in order to facilitate them in the acquirement, and guide them in the practice, I lent them the *Encyclopædia Britannica*, and pointed out the article where the process is fully explained. Baba Sheen, the second in authority at the port of Rangoon, and the Armenian interpreter, translated it into the Burmhan tongue.'

The form of government is despotic; but the emperor is accustomed to consult a council of nobles. No country of the east has a more splendid or well managed royal establishment; it is said to be magnificent without being wasteful, and extensive without confusion. On the death of the possessor of any honor or employ-

ment, it reverts to the crown. The orders of nobility are distinguished by the number of strings which compose the chain which is their badge. No subject is ever honored with a higher degree than twelve, and the king alone wears twenty-four. He is further honored by being the only proprietor of elephants throughout the empire; and none but an officer of the first rank is permitted to ride on one. He is addressed by the most sounding epithets, and approached with a degree of awe which is uncommon even in the east. No part of his person is mentioned but with some allusion to the splendid metals, particularly gold. If it is meant to be said that the king has heard any thing, the expression is, 'It has reached the golden ears;' the otto of roses is described as being grateful to the 'golden nose;' and he who has been admitted to the royal presence is said to have bowed at the 'golden feet.'

The Burmese may be said to be a nation of soldiers, every man in the kingdom being liable to be called upon for military service. Until a recent period, a few undisciplined native Christians and renegades acting as artillery, a small body of cavalry, natives of the mountains, and perhaps 2000 or 3000 ill disciplined infantry, were the entire standing force of the country. The usual armies were composed of levies raised on the occasion of a war breaking out, by the princes and great lords who hold all their lands by military tenure: 60,000 men of all arms was thought a very large force. The infantry are armed with muskets and sabres, the cavalry with a lance: their horses are small, but very active.

One of the most respectable parts of the Burmhan military force, is their war boats, carrying from fifty to sixty rowers, and used with short oars that work on a spindle. The prow is solid, and is a flat surface, on which, when they go to war, a piece of ordnance is mounted; a six, a nine, or even a twelve pounder, and several are frequently fixed on the stern. Each rower is provided with a sword and lance, which are placed by his side while he plies the oar. Besides the boatmen, there are usually thirty soldiers on board, who are armed with muskets. Their attack is extremely impetuous; they advance with great rapidity, singing a war song, and beating time with the strokes of their oars. They generally endeavour to grapple, and when that is effected, the action becomes very severe. The largest of these war boats is from eighty to 100 feet long, and they draw about three feet of water.

The population of the Burmese empire it is very difficult to estimate. All the necessities of life being easily acquired, and the facilities for emigration being also great, sudden fluctuations take place. Immense numbers of emigrants from these districts have passed the Bengal frontier within a few years; and to the circumstance of an humane endeavour to provide for one body of them, which appeared in Chittagong under lord Teignmouth's government, we are indebted for Mr. Cox's account of this empire. Colonel Symes estimated the population of the whole empire, in 1795, at 17,000,000 of souls; Cap-

tain Cox, a few years later, at less than half that number (8,000,000). A late resident at the court of Amarapura, captain Canning, considers even 3,000,000 as nearer the truth. The principal provinces have been named; the chief towns are, beside, Ava, the ancient, and Amarapura, or Ummerapour, the capital; Monchaboo, Pegu, Rangoon, Syriam, Prome, Negrais, Persaim, and Chagaing.

The religion of the Burmese is Budd'hism, one of the most widely extended, and most refined modifications of the Hindoo creed. See HINDOO. Like other versions of that creed, it teaches the belief of a supreme deity, in whom the universe is comprehended, and its polytheism is a deification of the planets and elements; but the creating, preserving, and destroying powers of nature, are transformed to so many subordinate agents, who are real objects of worship, so that the most degrading idolatry is the practical result of the system. Budd'ha himself, that incarnation of the deity with which the Burmhan faith is more directly connected, is represented in their temples by the figure of a young man of placid countenance, in the dress of a rahaan, or priest. His most common posture is sitting cross-legged on a throne; his left hand resting on his legs and holding a book, while his right stretches over his knee. Dr. Buchanan mentions an immense block of pure alabaster thus modelled. He had no opportunity of measuring its size, but its fingers were about the length and thickness of a man's leg and thigh, and the other parts of the body in proportion. These images are of all sizes, and made of all kinds of materials.

The temples of Godama are generally of a pyramidal form, and supposed to contain some relics of the god, as a tooth, a bone, a hair, or a garment. The pyramids are often of immense size, constructed of solid brick-work, and surrounded by a group of smaller pyramids, plastered, and sometimes gilt, over the whole outside. At top the whole is crowned with a gilt umbrella of iron filagree, hung round with bells. Stones, bearing the impression of the foot of the god, are peculiarly objects of devotion; particularly the Samanalé Sri-pade (or Amala Sari-padi, as it is named by the Burmese) on Adam's Peak, in the centre of Ceylon. The friends and attendants of Godama are also worshipped as deified beings; and their images are placed in the temples for adoration. The Bráhmancial deities are considered as heroes, but receive no adoration. The offerings at these temples are of every kind of valuable produce of nature and art; fruits of all kinds, rice, the cocoa-nut, betel, flowers, natural and artificial, gold and silver, generally wrought, and canes, pillows, umbrellas, and slippers, gilded profusely. One common way for a worshipper to express his devotion, is to gild a patch of the temple wall, in consequence of which many of them present a very motley appearance. The offerings of the king, according to Dr. Buchanan, are worth annually 86,805 lbs. of silver. 'Private prayers, chaunted with the aid of rosaries, offerings in the temples, particularly on the changes of the moon, fasts continued from sun-rise to sun-set at a certain season of the

year, mirth and jollity at festivals, especially at the commencement and close of their Lent, are among the many of their religious observances,' says a late writer, 'which bear a singular resemblance to those of the Roman church.'

The most remarkable superstition of this empire, however, is that which teaches them to regard the white elephant as almost divine. One of these animals is lodged in a splendid palace at Ummerapoore. His apartment is shrouded from vulgar eyes by a black velvet curtain, richly embossed with gold, and his whole residence is as dazzling and sumptuous as gold and silver can make it. He is furnished with a rich crimson silk bed, adorned with gold tapestry hangings, and jewellery, and has his gold betel boxes, spitting pots, &c. This animal is actually considered the second person in the state. Foreign ministers are introduced to his sacred presence, and lie ranks before every member of the royal family, except the king. Captain Canning, however, who saw him in 1810, represents him as a diminutive, sandy-colored beast, confined by gold and silver chains to the pillars of his apartments, disfigured by leprosy, and little gratified, apparently, by the services of his prostrate attendants.

The priests, and the morals professed to be taught, are alike creditable to the system, speaking of its comparison with many others. There are no secular priests who officiate in the worship; all are what the Romish church would call regular clergy. They live together in convents, which are by far the best habitations in the empire, and are dressed in a long yellow cloak, like the Carmelites; they go barefooted, and have their heads close shaven, on which they never wear a covering: they profess celibacy, and to abstain from every indulgence of the senses. If a rahaan, or priest, is detected in an act of incontinence, he is expelled from the society, and subjected to public disgrace. They never dress their own victuals, holding it an abuse to perform any of those common functions of life, which may divert them from contemplation. They receive the contributions of the laity ready dressed, and prefer cold food to hot. At the dawn of day they begin to perambulate the town, to collect their supplies, each convent sending forth a certain number of its members, who walk at a quick pace through the streets, and support with the right arm a blue lackered box for the donations. These consist generally of boiled rice, mixed with oil, dried and pickled fish, sweetmeats, fruit, &c. During their walk they never cast their eyes to the right or left, but keep them fixed on the ground; never stopping to solicit, and seldom even looking at their donors. They eat only once a day, at noon.

Dr. Buchanan says, as far as he could observe, they are of very decent moral deportment, remarkably hospitable to strangers, the most intelligent men in the country, and very highly respected by all classes. The road, on all occasions, is yielded up to them; they are generally addressed by some honorable title, and in their convents are allowed the use of painting and gilding, which are prohibited to all other subjects. In some cases they are even permitted to

plaster the outside roofs of their habitations white, which is the royal color, the most distinguishing of all royal insignia, and common only to Godama and the king. Though so highly honored, he adds, they retain the greatest simplicity in their manners. In the various commotions of the empire, they have never taken any active part, or publicly interfered, in politics, or engaged in war; and the Burmahans and Peguers, professing the same religion, who ever were conquerors, equally respected the ministers of their faith.

There were formerly nunneries of virgin priestesses, who, like the rahaans, wore yellow garments, cut off their hair, and devoted themselves to chastity and religion; but these societies were long ago abolished, as being considered injurious to population. At present there are a few respected old women, who shave their heads, wear a white dress, follow funerals, and carry water to convents. Some years ago a Catholic bishop, residing at Ava, asked the chief rahaan, called Zaradobera, to give him some short treatise which would explain the doctrines of Godama. The priest, willing to satisfy the bishop, wrote for his use, it is said, a small treatise, the most important particulars of which are as follow: 'The gods who have appeared in the present world, and who have obtained the perfect state, Niebau (deliverance from all the evils of life), are four; Chauchasam, Gonagom, Gaspa, and Godama. Of these the law of Godama ought at present to be followed. Q. Where is the god Godama? A. Godama, at the age of thirty-five years, having attained divinity, preached his law for forty-five years, and brought salvation to all living beings. At eighty years of age, he attained Niebau; and this happened 2362 years ago. Then Godama said, 'After I shall have departed from this earth, I will preserve my law and disciples for 5000 years; and he commanded, that his images and relics should be worshipped, which has accordingly been ever since done.' Q. What is the doctrine and law which Godama delivered to be observed by all men? A. It consists chiefly in observing the five commandments, and in abstaining from the ten sins. Q. What are the five commandments? A. 1. From the meanest insect, up to man, thou shalt kill no animal whatsoever. 2. Thou shalt not steal. 3. Thou shalt not violate the wife or concubine of another. 4. Thou shalt tell nothing false. 5. Thou shalt drink neither wine, nor any thing that will intoxicate: Thou shalt not eat opium, nor other inebriating drug. Whoever keeps these five commandments, during all successive transmigrations, shall either be born a nobleman or not, and shall not be liable to poverty, nor to other misfortunes and calamities.

Q. What are the ten sins. A. 1. The killing of animals. 2. Theft. 3. Adultery. 4. Falsehood. 5. Discord. 6. Harsh and indignant language. 7. Idle and superfluous talk. 8. The coveting of your neighbour's goods. 9. Envy, and the desire of your neighbour's death. 10. Embracing the doctrine of false gods.

One good work is called Dana, which consists in giving alms, particularly to the rahaans. A

second is called Bavana, which consists in thoughtfully pronouncing these three words, Aneizza, Docha, and Anatta. By the word Aneiza, is understood, that he who pronounces it recollects, that, by his particular situation, he is liable to vicissitudes; by the word Docha is understood, that by the same situation he is liable to misfortune; and by the word Anatta, that it is not in his power to exempt himself from being liable to changes and to misfortune. Whoever dies without having observed the Sila, Dana, and Bavana, will certainly pass into one of the infernal states, and will become a Nirea, a Prietta, or some animal.

‘Revolving these things in your mind’, continues this curious document, ‘O ye English, Dutch, Armenians, and others, adore Godama the true god; adore also his law and his priests. Be solicitous in giving alms, in the observance of Sila, and in performing Bavana. But a true and legitimate priest of Godama is not to be found, except in this empire, or in the island of Ceylon; and you, O Bishop, have obtained a great lot, who have been thought worthy, although born in one of the small islands depending on Zabudiha, to come hither and to hear the truth of the divine law. This book, which I now give you, is more estimable than gold or silver, than diamonds and precious stones; and I exhort all English, Dutch, Armenians, and others, faithfully to transcribe its contents, and diligently to act according to the precepts therein contained.’

The Burmese are exceedingly tolerant of all other religions, we should add, and teachers of all of them are considered privileged persons.

Colonel Symes passes a warm encomium on the general principles of Burmhan law. It provides, he assures us, with great perspicuity against every kind of crime that can be committed, and adds an ample chapter of precedents and decisions, to guard the inexperienced in cases of doubt. The trial by ordeal, however, disgraces it in common with the legal system of all countries where the Hindoo religion is professed. An instance of this mode of trial is related by the colonel. ‘Two women having litigated a small property in a court of justice, and the judges finding it difficult to decide the question of right, it was agreed to refer the matter to the issue of an ordeal. The parties, attended by the officers of the court, the rabaans, and a multitude of people, repaired to a pond. After certain prayers and ceremonies, the two women entered the pond, accompanied by two or three men, one of whom placed them close to each other, and put a board on their heads, which he pressed down till they were both immersed at the same instant. After continuing out of sight for about a minute and a-half, one of them being nearly suffocated, raised her head, whilst the other continued to sit on her hams at the bottom, but was immediately lifted up by the man; after which, an officer of the court pronounced judgment in her favor; and of the equity of the decision, none present seemed to entertain the smallest doubt.’ This practice, however, and that of imprecation, are now losing ground, and have of late years been discountenanced by the judicial courts. In particular cases the criminal jurisprudence is lenient, but

rigorous in others. The first commission of theft does not incur the penalty of death unless the amount stolen is above 800 tackals, or about £100 sterling, or is attended with some circumstances of atrocity, as murder, or mutilation. In the former case, the culprit has a round mark imprinted on each cheek by gunpowder and puncturation, and on his breast the word *thief*, with the article stolen. For the second offence he is deprived of an arm; for the third he inevitably suffers death, by decapitation, a mode of punishment in the performance of which the Burmhan executioners are skilful. The administration of public affairs, was said at this time to be conducted with singular openness and publicity. The punishments which those who drink spirits, &c. meet with, are very frequent and severe. In 1808 the son of the viceroy of Rangoon was put to death for chewing opium; for the same offence another was crucified and nailed up with red hot nails; a third, for incorrigible drunkenness had boiling lead poured down his throat in small quantities. Various other cruel punishments disgrace their penal law.

Their common books, like those of the Hindoos, are composed of the palmyra leaf, on which the letters are engraved with a style; but they are much superior to those of the Western continent, in the neatness of the execution, and in the ornaments which decorate them. Books are also composed of thin stripes of bamboo, delicately plaited and varnished over in such a manner as to form a smooth and hard surface.

Their written language is the Pali or Bali, a dialect of the Sanscrit; but the common dialect of the people is a mixture of monosyllabic and polysyllabic words, abounding in terms of honor and dignity. A grammar of this language was lately composed by a British officer, and presented to the Asiatic Society of Calcutta. In their literature, while nothing profound in science or philosophy appears, great general intelligence pervades the body of the people; and respectable compositions in ethics, law, history, and poetry, are read and recited by all ranks. They are also decidedly contrasted with their Hindoo neighbours in their liberality of sentiment towards other nations, and their toleration. The Royal Library of the capital, when visited by Colonel Symes, contained a surprising number of books, methodically arranged; the contents of each chest being written on it in letters of gold. The theological department was very copious. The king, who sat on the throne when the British embassy was sent to this country, had caused the Institutes of Menu to be translated from the English of Sir W. Jones. But their astronomical and geographical opinions are similar to those of the Hindoos. The figures of the constellations, given by Dr. Hamilton in the Asiatic Researches, vi. 296, are evidently derived from the Hindoo systems of astronomy. Their year has twelve months, of twenty-nine and thirty days alternately, and is rectified by an intercalation every third year. Their calculation from the new to the full moon is progressive; for the remainder of the month, retrogressive. Their week, like that of the Hindoos, is divided into seven days, and the commencement of their era corresponds pretty nearly

with A.D. 638; it is consequently considerably more modern than those generally used in India. The eighth of the decreasing moon, and the last day of the moon, are set apart by the Burmese as sacred festivals. On these hebdominal holidays no public business is transacted, and mercantile engagements are suspended; and the strict observers of them take no sustenance between the rising and the setting of the sun: but the latter instance of self denial is not very common, except in the metropolis. The passage of time is ascertained by a curious machine, resembling the hour-glass, and sometimes by a perforated pan placed in a tub of water. The day commences at noon, and is divided into eight portions, of about three hours each. They are announced by a stroke on an oblong drum, which is always placed near the dwelling of the chief magistrate of the town or village. It is commonly raised on a high bamboo stage, with a roof of mats to protect it from the weather. The edifice at the royal palace in the capital is of masonry, and is very lofty; so that the sound is said to be distinctly conveyed to the remotest parts of the city.

The Burmese have little of the indolence of their neighbours; they are, on the contrary, inquisitive, energetic, and passionate, in a high degree. Their women are not secluded as in other parts of the east, but are nevertheless in the same state of general degradation and wretched slavery to the mere gratifications of man. They are frequently sold for prostitution, and are taken as a kind of chattel by a creditor. In the midst of all this they are industrious, and in that constantly useful employment which attaches to their husbands and produces a remarkable degree of fidelity. Colonel Symes mentions, that, on occasion of a formal visit to the mother of the present queen, they observed, in one of the galleries of his palace, three or four looms working by the damsels of his household. Weaving, indeed, is chiefly a female occupation, and most females make all the cotton and silk cloth that is necessary for domestic consumption. For these, amongst other reasons, we suppose, no women, nor even the female children of a casual intercourse with foreigners, are allowed to leave the country. So particular is the Burmhan law in this respect, that, before a ship receives her clearance at any port, she is searched with great care for this valuable commodity, by the custom-house officers, and should a vessel which has by fraud taken out a woman ever return to a Burmhan port, the master would be subject to fine and imprisonment, and the property confiscated.

In features, complexion, and general make, the Burmese approach to their Chinese neighbours; like them they pluck out their beards, and blacken their teeth and eyelids like the Hindoos. They also tattoo themselves on the arms and thighs. Coarse and uncleanly in their diet, notwithstanding the prohibitions of their law, they are very fond of animal food.

Houses here are generally raised three or four feet from the ground, and built of bamboos and mats: few are allowed by their laws to indulge in the luxury of lackerie or gilding the pillars of their abode. They do not contract marriages

till the parties have attained the age of puberty; and are restricted to one wife; but concubinage is allowed. They burn their dead; and their widows are decently provided for.

The practice of their physicians is almost entirely empirical; and, accordingly, they are not held in high estimation. Dr. Buchanan mentions a curious custom respecting them. If a young woman appears to be dangerously ill, the physician and her parents frequently enter into an agreement, by which he undertakes to cure her. If the doctor is successful, he takes her as his property; but if she dies, he pays a certain sum for her to the parents. In surgery, the skill of the Burmese extends only to the dressing of wounds and setting of bones. But of late they have introduced from Arracan the art of inoculation. The practice, however, makes but slow progress, although a very great proportion of the people are marked with small pox. The Baptist missionary, Mr. Felix Carey, introduced in 1808 the vaccine inoculation into the city of Rangoon, and performed the operation on a considerable number of people; among others, on the family of the governor.

The nobles dress in a superb robe of flowered satin or velvet, reaching to the ancles, with an open collar, and loose sleeves. Over this is a scarf, or flowing mantle, which hangs from their shoulders; and on their heads they wear high caps of velvet, either plain, or of silk embroidered with flowers of gold. Some persons of condition wear for ear-rings tubes of gold, about three inches long, and as thick as a large quill, which expand at one end like the mouth of a trumpet; others wear a heavy mass of gold, beaten into a plate, and rolled up. This lump of metal drags down the lobe of the ear by its weight to the extent of two inches, and makes a considerable orifice in it. In their common dress, men of rank wear a tight coat, with long sleeves, made of muslin, or of very fine nankeen, and a silk wrapper that encircles the waist. The working classes are usually naked to the middle; but, in cold weather, they make use of a mantle or vest of European cloth. When women of quality go abroad, they wear a silk sash like a long shawl, which crosses their bosom, and is cast over the shoulder so as to flow down very gracefully. The poorer females often wear only a single garment, in the form of a sheet, wrapped round the body, and tucked under the arm; it crosses their breasts, which it scarcely conceals, and descends to their ancles in such a manner that the legs protrude from under it when they attempt to walk. Rank is regarded with particular attention. No one dare assume in his house a mode of structure to which he is not legally entitled, under the penalty of a most severe punishment; and even in the domestic instruments, in the shape of the betel box, which is carried by an attendant before one of noble birth, as well as in his ear-rings, his cup of ceremony, the accoutrements of his horse, and even in the metal of which his spitting-box is made, the due subordination and station of a Burmhan appears. The sitting posture is, among the Burmese, the most respectful, so that strangers are very apt to attribute to pride, what, in their view, is a mark of deference.

Among their amusements are boxing-matches, processions, fire-works, public dances, and puppet-shows. They are particularly fond of dramatic entertainments. At Pegue is a theatre, in an open court, often splendidly illuminated by lamps and torches. Indeed, at all festivals they have entertainments, consisting of music, dancing, and action, with a dialogue in recitation. The higher ranks are particularly fond of chess. The board which they use is exactly similar to ours, containing sixty-four squares, and the number of troops the same, sixteen on each side; but the names, the power, and the disposal of them, differ. On the last day of the year a curious custom prevails. Women are accustomed on this day to throw water on every man they meet, and the men have the privilege of retaliating, a licence which gives rise to a great deal of harmless merriment, particularly among the young women, who, armed with large syringes and flaggons, endeavour to wet every man that passes the streets; and, in their turn, receive the same compliment. Dirty water is never employed; nor is a man allowed to lay hold of a woman, but he may cast as much water over her as he pleases, provided she has been the aggressor. If a woman warns a man that she does not mean to join in the diversion, it is considered as an avowal of pregnancy, and she is exempt from attack.

This empire was founded by an obscure, but able and enterprising, village chieftain, in the middle of the last century. In the sixteenth century, Ava, with its dependent territory, was subject to the king of Pegue; but revolts frequently took place, until the Burmese, in 1752, were completely defeated; and Ava, the capital of the empire, after a short siege, surrendered at discretion. At this time Dweepdee, the last of a long line of kings of Ava, and all his family, except two sons, were taken prisoners: the latter fled for protection to the court of Siam; and the unhappy king was soon after cruelly murdered. In these contests the French frequently assisted the Peguese, while British gold, and British influence, favored our present enemies the Burmese.

But a champion now arose in the person of Alompra, the first sovereign of the present dynasty, possessed of a spirit of enterprise equal to the most arduous undertakings, and of the greatest wisdom and coolness to adapt his measures to the difficult circumstances of his country. He had been appointed by the Peguese conqueror to the command of a small district round Monchaboo, and had only in the first instance about 100 picked men devoted to his cause. With these, however, he overpowered the enemy in his immediate neighbourhood, and, advancing unexpectedly on Ava, compelled them to abandon it. In 1754 an expedition was fitted out from Pegue to retake this important possession. About the same time the eldest son of the late king endeavoured to assert his right to the throne: but Alompra soon compelled the latter to retire finally to the Siamese territory, and defeated Beinga, the king of Pegue, in a pitched battle near Promé, with immense slaughter. Successive armies of the Peguese, assisted by French officers, were subdued by the Burmhan chieftain,

who in 1756 obtained possession of Syriam by surprise, and thus cut off all communication between the enemy and the western countries of Dalla and Bassien, deprived them of the navigation of the Rangoon river and the Erawady, and shut them out from all foreign aid. In January, 1757, he undertook the siege of the city of Pegue by circumvallation, a favorite practice among the Burmese, and a negociation was opened, which terminated in an agreement, that the king of Pegue should become tributary to the Burmhan monarch. His daughter was surrendered to the victor as a pledge of his allegiance. Notwithstanding these arrangements, however, Alompra still pressed the siege, and at last obtained possession of the town by famine, and abandoned it to indiscriminate slaughter. At this time an envoy being sent to him from the British factory at the Negrais, he was very lofty in his carriage, and displayed with great complacency the numerous captives of the royal forces of Pegue in his train. Alompra now proceeded to bring into subjection the countries to the eastward, including the fertile districts between Pegue and the three Pagodas: he also reduced Tavoy, and proceeded to chastise the Siamese for the support and encouragement which they had afforded his different enemies. After various achievements, the victor advanced towards the capital of that kingdom; but two days after the commencement of the siege, was taken ill of a disease which he foresaw would prove mortal, and therefore gave orders for an immediate retreat. Before, however, he reached the seat of his empire he died, May 15th, 1760, in the fiftieth year of his age, much regretted by his people; and, whether viewed in the light of a soldier or a politician, is undoubtedly entitled to considerable respect. He decidedly improved all the territory he subjugated, and studied the prosperity of his subjects. He severely restrained the use of spirituous liquors; issued an edict against all gambling; and reformed the courts of justice, prohibiting magistrates to decide at their private houses on criminal causes, or with regard to property, when the amount exceeded a certain sum: every process of importance was to be decided in public, and every decree registered. He was succeeded by his eldest son Namdojee, who followed his plans for promoting the improvement of the country, and died, after suppressing some unimportant revolts, in 1764. He left an infant son named Momien, whom his uncle Shembuan deprived of the crown. The new monarch, on ascending the throne, declared war against the Siamese, and after various encounters, proceeded to invest Siam, the imperial. The king of Siam, finding resistance hopeless, secretly withdrew from the town, in order to avoid falling into the hands of the enemy: and eluding the Burmhan outposts, sought refuge among the hills, where he perished, but in what manner is not known. His generals, now deserted, agreed to capitulate; the fortifications of the city were destroyed, and a governor was appointed, who took an oath of allegiance to the Burmhan monarchy, and engaged to pay an annual tribute. However, the conqueror had no sooner withdrawn, than one of the king's relations returned at the head of a numerous army, displaced the

new government, and abolished all the regulations that had been imposed on the Siamese. Shembuan now therefore despatched a new army to suppress the insurrection; but, in the mean time, the Chinese had sent an army of 50,000 into one of his northern provinces. The troops of Shembuan advanced to meet them, and surrounding the enemy on all sides, attacked them with such impetuosity, that after a conflict of three days, the latter entirely sunk under the pressure of superior numbers, and the carnage was dreadful. Not an individual of the Chinese army, it is said, returned home to relate the melancholy tale; about 2500 prisoners were however preserved, and conducted in fetters to Ava, where they were encouraged to marry and settle. This second founder of the empire, after various other military exploits, died in 1776, and was succeeded by his son Cheuquza. He proved wholly unlike his father, and, being an abandoned debauchee, was deposed and put to death by his uncle Mindrajee Praw, in 1782.

This person was the fourth son of the great Alompra, the founder of the dynasty. One of his first acts was to drown his nephew Momien (the son of Namdojee Praw, the second sovereign), by fixing him betwixt two jars, which were sunk in the stream, the usual Burmhan mode, we are told, of executing members of the royal family. He, however, was himself soon deprived both of his life and diadem, by a desperado, named Magoung, who, with about 100 confederates, attacked him and his guards in his own palace, where they all fell. Minderajee transferred the seat of empire from Ava to Ummerapoora. Of Ava, as he saw it, colonel Symes, says, 'The walls are mouldering into ruin, ivy elings to the sides, and bushes, suffered to grow at the bottom, undermine the foundation, and have already caused large chasms in the different faces of the forts. The materials of the houses, consisting chiefly of wood, had, on the first order for removing, been transported to the new city of Ummerapoora; but the ground, unless when it is covered with bushes or rank grass, still retains traces of former buildings and streets. The lines of the royal palace, of the grand council hall, the apartments of the women, and the spot on which the peasanth or imperial spire had stood, were pointed out to us by our guide. Clumps of bamboos, a few plantain trees, and tall thorns, occupy the greater part of the area of the lately flourishing capital. We observed two dwelling houses of mortar and brick, the roofs of which had fallen in. These, our guides said, had belonged to foreigners. On entering one, we found it inhabited only by bats, which flew in our faces, whilst our sense of smelling was affected by their filth, and by the noisome mildew that hung upon the walls. Numerous temples, on which the Burmese never lay sacrilegious hands, were dilapidating by time. It is impossible to draw a more striking picture of desolation and ruin.'

In the year 1783 the Burmese sent a fleet of boats against Arracan, which, after a slight resistance, was completely conquered, and Mahasumda, the rajah, and his family, made prisoners.

The surrender of Cheduba, Ramree, and the Broken Isles, followed. In 1785 they attacked the Siamese island of Junkseydon, with a fleet of boats and an army; but were ultimately compelled to retreat. The Burmhan monarch, whose pride was thus deeply mortified, resolved to repair the disgrace; and, in 1786, invaded Siam with an army of 30,000 men, but was again defeated, near the frontiers, by Pictick Single, the king of Siam; his useless cannon taken, and himself escaping with great difficulty.

The Siamese, in the year 1790, obtained possession of Tavoy by treachery, which the Burmese, in 1791 regained by the same means; and that year compelled the Siamese to raise the siege of Mergui. In 1793 peace was concluded with the latter, who ceded to the Burmese the western maritime towns as far south as Mergui, or the entire possession of the coast of Tenasserim, and the important sea ports of Mergui and Tavoy.

In 1795 commenced our first dispute with this formidable native power. The Burmhan monarch learning that three noted banditti of Arracan, had taken refuge in the British district of Chittagong, ordered a body of 5000 men to enter the Company's territories, with positive instructions not to return unless he brought with him the delinquents dead or alive; he afterwards supported this detachment with an army of 20,000 men, held in readiness in Arracan.

General Erskine was now therefore ordered to advance with a strong detachment of the Company's troops from Calcutta, who were met by a battalion of Europeans by water, and the native sepoys. In the interim, the Chittagong magistrates had apprehended the fugitives. On the approach of the British, Serce Nanda Kiazoo, the Burmhan commander, sent a flag of truce, proposing terms, and stipulating for the surrender of the fugitives as the basis of them. The British general replied, that no terms could be listened to while the Burmese continued on the Company's territories; but that as soon as they should withdraw within their own frontier, he would enter on the subject of their complaints; notifying also, that unless they evacuated their camp, which they had fortified, in a limited time, force would be used to compel them. The Burmese chief now personally waited on General Erskine, and disclosed his instructions, the enormity of the offenders, the outrages they had committed, &c. The British commander, on the other hand, repeated that it was impossible for him to retract: but assured his visitant that the Company's agents had no desire to protect offenders, and would quickly prove this on the retreat of the hostile force. This was at last agreed to, and conducted in the most orderly manner: not one act of violence having been committed during its continuance in Chittagong. The guilt of the refugees being established, they were immediately delivered over to the Burmhan authorities, and a good understanding was re-established. The origin of the late dispute, its fluctuating character, and we trust, its final termination, will meet our attention in the article INDIA, BRITISH

BURN', v. & n. } Goth. *brenna*, *brina*, per-
 BURN'ER, } haps from *arin*, fire, Per.
 BURN'ING, } *burvan*, Teut. *brennan*, Sax.
 BURNING-GLASS. } *birnan*, *bernan*, Lat. *uro*,
 Heb. *buur*, from Chald. and Heb. *ur*, *Hup*, Lat.
pruina. To consume by fire, to be hot, to be on
 fire; to be kindled; to shine, to sparkle, Met
 Passion inflamed to a heating or burning excess,
 whether love, anger, jealousy, hate, or desire.

Wher that the fire was gret and brent fast.

Chaucer

He [Nero] Rome *brenie* for his delicacy;
 The senators he slow upon a day,
 To heren how that men wolde wepe and crye;
 And slew his brother and by his sister lay.

Id. *Canterbury Tales*.

He causeth the' one to rage with golden *burning*
 dart,
 And doth alay with leaden colde again the others
 hart,
 Whote gleames of *burning* fire, and easy sparkes of
 flame,
 In balance of unegal weight he pondereth by ayme.

Surrey. *Description of the Fickle Affections, &c.*

For with a beck you shall me call;

And if of one, that *burns* alway,

Ye haue pitie, or ruth at all,

Answeere him faire with yea or nay.

Wyat. *The Lady to answer directly with Yea or Nay*.

His garment neither was of silke nor say,

But paynted plumes in goodly order dight,

Like as the sun-burnt Indians do array

Their tawny bodies in the proudest plight.

Spenser.

Tranio, I *burn*, I pine, I perish, Tranio,

If I achieve not this young modest girl!

Shakspeare.

The appetite of her eye did seem to scorch me up
 like a *burning-glass*.

Id.

Altar of Syrian mode, whereon to *burn*

His odious offerings.

Milton.

In liquid *burnings*, or on dry, to dwell,

Is all the sad variety of hell.

Dryden.

O, diadem, thou centre of ambition,

Where all its different lines are reconciled,

As if thou wert the *burning-glass* of glory!

Id.

While the vital fire

Burns foebly, heap not the green fuel on,

But prudently foment the wandering spark,

With what the soonest feels its kindred touch;

Be frugal even of that.

Armstrong.

We see the phlegm of vitriol is a very effectual
 remedy against *burns*.

Boyle.

Oh prince! oh wherefore *burn* your eyes? and why
 Is your sweet temper turned to fury?

Rowe.

She *burns*, she raves, she dies 'tis true,

But *burns*, and raves, and dies, for you.

Addison.

Say, by what name I shall presume to call

Him I see *burning* in these countless suns,

As Moses in the bush? *Young's Night Thoughts*.

The mighty stream, which volumes high

From their proud nostrils, *burns* the very air,

And sparks of flame, like dancing fire-flies, wheel

Around their manes, as common insects, swarm

Round common steeds towards sunset.

Byron's *Deformed Transformed*.

BURN',

BURN'ISH, v. & n. } Goth. *bruna*, Swed. *brunn*; Teut.
 } *brun*, burn, from Goth. *rinna*; Islan. *brynna*, to
bruniss, Port. *brunice*, Ital. *brunire*, to
 polish, to make bright; also to make brown, that
 is to impart a burning color. Metal may be

polished to a dazzling brightness, so that it shall
 seem to burn. Chaucer and Gower write to
 burn, in the sense of burnish.

And downward from an hill under a bent,
 Ther stood the temple of Mars armipotent
 Wrought all of *burned* steele, of which the' entree
 Was longe and streite, and gastly for to see.

Chaucer. *The Knightes Tale*, v. 1985.

And Phebus died bath hire tresses grete,
 Like to the stremes of his *burned* hete.

Id. *The Doctoures Tale*, v. 11972.

And euermore, as it is tolde,

An harnois as for a lustie knight,

Whiche *burned* was as siluer brigh

Of swerde, of plate, and eke of maille.

Gower. *Conf. Am.* bk. v.

And them amongst, some were of *burnisht* gold,

So made by art to beautify the rest,

Which did themselves amongst the leaves enfold,

As lurking from the view of covetous guest. *Spenser*.

Make a plate of them, and *burnish* it as they do
 iron.

Bacon.

Mislike me not for my complexion,

The shadowed livery of the *burnished* sun,

To whom I am a neighbour and near bred.

Shakspeare.

Like a glad lover the fierce flames he meets,

And tries his first embraces in their sheets,

His shape catch which the bright flames enfold,

Like the sun's statue stands of *burnished* gold.

Marvell.

He Trulla loved; Trulla more bright,

Than *burnished* armour of her knight;

A bold virago, stout and tall,

As Joan of France, or English Moll.

Butler's *Hudibras*.

The frame of *burnished* steel, that cast a glare

From far, and seemed to thaw the freezing air.

Dryden.

To shoot, and spread, and *burnish* into man. *Id.*

I've seen a snake in human form,

All stained with infamy and vice,

Leap from a dunghill in a trice,

Burnish, and make a gaudy show,

Become a general, peer, and beau. *Swift*.

Bristling with spears, and bright with *burnished*
 shields,

The embattled legions stretch their long array.

Beattie.

BURN'. Goth. *brun*; Swed. *brunn*; Teut.
brun, burn, from Goth. *rinna*; Islan. *brynna*, to
 run; a small stream of water or rivulet.

BURN, in medicine and surgery, a lesion of
 the animal body, occasioned by the application
 of heat. The life of the part may be at once
 destroyed by these accidents, or mortification
 speedily follow the violent inflammation excited;
 but when slight, it usually produces an effusion
 of serum under the cuticle, like a blister. When
 the injury is extensive, considerable fever is apt
 to supervene, sometimes a comatose state; and a
 remarkable difficulty of breathing often precedes
 death. In the treatment of these accidents, two
 very different methods have been pursued. The
 more ancient plan consists in antiphlogistic
 means, giving cooling purgatives, &c. and even
 taking blood, where the irritation is great; em-
 ploying at the same time cold applications, and
 where the skin is destroyed, emollient dressings;
 opium was also recommended to relieve the pain,
 notwithstanding stupor might attend. More re-

cently, a surgeon at Newcastle, of the name of Kentish, has deviated from the ancient practice; applying first oil of turpentine, alcohol, &c. heated as much as the sound parts could bear, and gradually lessening the stimulus; in the mean time supporting the patient by a cordial diet, æther, &c. and giving opium largely to lessen the irritation. A considerable connexion with smelting furnaces, where accidents of this description are of very frequent occurrence, enables us confidently to state, that turpentine is one of the best possible applications. Where, however, the skin is torn, let lint, dipped in sweet oil, be laid next the part, and turpentine on lint likewise be laid over it, and occasionally renewed, till the fire is entirely drawn out.

BURNET (Gilbert), bishop of Salisbury, in the latter end of the seventeenth century, was born at Edinburgh, in 1643, of an ancient Aberdeenshire family. His father being bred to the law, was, at the Restoration, appointed one of the lords of session, with the title of lord Cramond. Our author, his youngest son, he himself instructed in the Latin tongue; and, at ten years of age, sent him to the university of Aberdeen, where he was admitted M.A. before he was fourteen. His own inclination led him to the study of the law; and from this he stated himself to derive more just notions concerning civil society and government, than those which many divines maintain. About a year after, to the great satisfaction of his father, he relinquished his legal pursuits, and began to apply to divinity. He was admitted preacher before he was eighteen; and Sir Alexander Burnet, his cousin-german, offered him a benefice, which he refused. In 1663, about two years after the death of his father, he went into England; and left his native land in 1664, to make the tour of Holland and France. At Amsterdam, by the help of a Jewish rabbi, he perfected himself in the Hebrew language; and became acquainted with the leading men of the different persuasions tolerated in that country; among all of whom, he says, he met with men of such unfeigned piety and virtue, that he became fixed in principles of universal charity, and an invincible abhorrence of all severities on account of religious opinion. Upon his return from his travels, he was admitted minister of Salton; and performed the duties of his station five years in the most exemplary manner. At this period he memorialised the Scots bishops, on the errors of their administration. In 1669 he published his *Modest and Free Conference between a Conformist and Non-Conformist*; and became acquainted with the duchess of Hamilton, who communicated to him all the papers belonging to her father and her uncle; upon which he drew up the *Memoirs of the Dukes of Hamilton*. The duke of Lauderdale now invited him to London, and introduced him to king Charles II. Returning to Scotland, he married the lady Margaret Kennedy, daughter of the earl of Cassillis; a lady of great piety and knowledge, and highly esteemed by the presbyterians. The day before their marriage, our author voluntarily settled her whole fortune on this lady. The same year he published his *Vindication of the Authority, Constitution, and Laws of the Church*

and State of Scotland; which at that juncture was regarded as so great a public service, that he was offered a bishopric; but did not accept of it, because he could not approve of the measures of the court. His intimacy with the dukes of Hamilton and Lauderdale occasioned him to be sent for frequently by the king and the duke of York, who had conversations with him in private. But Lauderdale conceiving a jealousy of him, represented at last to the king, that Dr. Burnet was engaged in an opposition to his measures. The duke of York, however, treated him with greater civility than ever, and dissuaded him from going to Scotland. Upon this, he resigned his professorship at Glasgow, and staid in London. About this time the living of Cripplegate was offered him by the dean and chapter of St. Paul's; but, as he had been informed of their first intention of conferring it on Dr. Fowler, he declined it. In 1675, at the recommendation of lord Hollis, whom he had known in France, he was, by Sir Harbottle Grimstone, appointed preacher of the Rolls chapel, notwithstanding the opposition of the court. He was soon after chosen a lecturer of St. Clement's, and became very popular. In 1679 he published his *History of the Reformation*, for which he had the thanks of both houses of parliament. The first part of it was published in 1679, and the second in 1681. Next year he published an abridgment of these two parts. Dr. Burnet about this time happening to visit a woman in sickness, who had been engaged in an amour with the earl of Rochester, he became acquainted with that nobleman, and for a whole winter, he spent one evening in a week with him. The happy effect of these conferences occasioned the publication of his well-known account of the life and death of his lordship. In 1682, when the administration was changed in favor of the duke of York, being much resorted to by persons of all ranks and parties, in order to avoid returning visits, he built a laboratory, and went for a year through a course of chemical experiments. Not long after, he refused a living of £300 a year, offered him by the earl of Essex, on the terms of his not residing there, but in London. The king now offered him the bishopric of Chichester, if he would engage in his interests; but he refused to accept it on these terms. He preached at the Rolls till 1684, when he was dismissed by order of the court. About this time he published several pieces. On king James's accession, having obtained leave to go out of the kingdom, he first went to Paris, and lived in great retirement, till contracting an acquaintance with brigadier Stoupe, a Protestant gentleman in the French service, he made a tour with him into Italy, and met with an agreeable reception at Rome. Pope Innocent XI. hearing of his arrival, sent the captain of the Swiss guards to acquaint him he would give him a private audience in bed, to avoid the ceremony of kissing his holiness's slipper. But Dr. Burnet excused himself. Some disputes which he had concerning religion were shortly after noticed, and, on an intimation from prince Borghese, he was obliged hastily to leave the city. He pursued his travels through Switzerland and Ger-

many, and, in 1688, came to Utrecht, where he received an invitation from the prince and princess of Orange (to whom their party in England had recommended him) to come to the Hague. Here he was at once made acquainted with the counsels of the prince, and advised the fitting out of a fleet in Holland to support his designs. This, and the Account of his Travels, which, with some papers, in single sheets, reflecting on the proceedings of England, were industriously dispersed throughout the country, alarmed king James, and occasioned him twice to insist, by his ambassador, on his being dismissed. This, after much importunity, was done, though he continued to be trusted and employed as before. To put an end to his frequent conferences with the Dutch ministers, a prosecution for high treason was set on foot against him both in England and Scotland. But Burnet receiving the news before it arrived at the States, he avoided the storm, by petitioning for, and obtaining, a bill of naturalisation, in order to an intended marriage with Mary Scot, a Dutch lady of considerable fortune. After his marriage, being legally under the protection of Holland, when he found king James plainly subverting the constitution, he omitted no method to promote the design the prince of Orange had formed of delivering Great Britain, and came over with him in quality of chaplain. He was soon advanced to the see of Salisbury, and declared for moderate measures with regard to the clergy, who scrupled to take the oaths, as well as for the toleration of non-conformists. His Pastoral Letter, concerning the oaths of allegiance and supremacy to king William and queen Mary, 1689, happening to touch upon the right of conquest, gave such offence to both houses of parliament, that it was ordered to be burnt by the hands of the common executioner. In 1698 he lost his wife by the small-pox; and, as he was almost immediately after appointed preceptor to the duke of Gloucester, of whose education he took great care, this employment, and the tender age of his children, induced him the same year to supply her loss by a marriage with Mrs. Berkley, eldest daughter of Sir Richard Blake, knight. In 1699 he published his Exposition of the thirty-nine articles; which occasioned a representation against him in the lower house of convocation, 1701; but he was vindicated in the upper house. His speech in the house of lords in 1704, against the bill to prevent occasional conformity, was severely attacked. He died in 1715, and was interred in the church of St. James, Clerkenwell, where he has a monument. He formed a scheme for augmenting the poor livings; which he pressed forward with such success, that it ended in an act of parliament passed in the second year of queen Anne, 'for the augmentation of the livings of the poor clergy.'

BURNET (Thomas), a learned writer in the end of the seventeenth century, was born at Croft, in Yorkshire, in 1635, and educated at Cambridge under the tuition of Mr. Tillotson, afterwards archbishop of Canterbury. In the beginning of 1685 he was made master of the Charter-House, after which he entered into holy orders. The year following he distinguished himself greatly,

by refusing to admit Andrew Popham, a Roman Catholic, as a pensioner of the Charter-House, though the man came with a letter from king James himself to the governors. In 1680 he published his *Telluris Theoria Sacra*, so universally admired for the purity of the style and beauty of the sentiments, that king Charles gave encouragement to a translation of it into English; and though, in point of philosophy, it is completely exploded, the book will ever continue to charm the reader by the eloquence of its style, and the grandeur of its imagery. It was answered by Warren, Keill, and Whiston; to all of whom Dr. Burnet replied. After the Revolution he was made clerk of the closet to the king, of which place he was deprived in 1692, for publishing some dangerous positions in his *Archæologia Philosophicæ*. He died in 1715. Since his death have been published, his books, *De Statu Mortuorum et Resurgentium*, and *De Fide et Officiis Christianorum*.

BURNETT (James), lord Monboddo, a learned lawyer and polite writer, was born at the family-seat of Monboddo, in North Britain, in 1714. He was educated at Laurencekirk, Aberdeen, and Groningen, where he studied the civil law. In 1738, on his return to Scotland, he was admitted an advocate, and obtained considerable practice. On the death of his relation, lord Milton, in 1767, he was promoted, by the title of lord Monboddo, to the bench; and died at Edinburgh of a paralytic stroke, in 1799. His lordship was deeply read in Greek literature, his love of which induced him to despise more modern learning. He indulged in some curious speculations; seriously advocating the existence of satyrs and mermaids, together with a supposed affinity between the human and the monkey tribes. His *Origin and Progress of Language* appeared in 1773; and the *First Part of his Ancient Metaphysics* in 1778. This last extended to six volumes.

BURNEY (Charles, Mus. D.), was a native of Shrewsbury, and born in 1726. Having received the rudiments of education, first at the grammar-school of his native town, and at Chester, he returned home in 1741, and continued the study of music, for which he had early shown a strong taste. He was finally placed under Dr. Arne for three years, and in 1749 was elected organist to a church in Fenchurch-street. His stay in London, however, was short; after composing, in the winter of 1749, *Robin Hood*, *Alfred*, and *Queen Mab*, for Drury-lane, he retired to Lynn Regis, where he commenced his great undertaking, the *General History of Music*, the first volume of which appeared in 1776, and the remaining three at intervals, till the whole was completed, in 1789. He returned, after nine years' absence, to the metropolis, and produced at Drury-lane an English version of the *Devin du Village of Rousseau*. In 1769 he took an honorary degree of doctor of music at Oxford, where his probationary exercise was much admired, and frequently performed. The year following he went abroad, and on his return published his *Musical Tour through France and Italy*. In 1772 he again left England and made a tour through Germany and the Netherlands, an

account of which appeared in two volumes, octavo. On his second return he became a fellow of the Royal Society, and drew up for the Philosophical Transactions, An Account of Little Crotch the Infant Musician, the present Oxford musical professor. His other works are—An Account of the Commemoration of Handel in 1785, with a Memoir of that celebrated man; a Life of Metastasio, in 3 vols. 8vo. 1796; an Essay on the History of Comets; a Plan of a Public Music School; and The Cunning Man; besides numerous sonatas, duets, and concertos. Dr. Burney was for some time an inhabitant of a house in St. Martin's-street, near Leicester-square, which was once the habitation of Sir Isaac Newton; but the last twenty-five years of his life were spent in his apartments in Chelsea College, to which he was organist. Several of his children, of whom he had eight, by two marriages, have also distinguished themselves in the literary world, especially his second son, and madame d'Arblay, authoress of *Evelina*, &c. His eldest son James was a companion of captain Cook round the world. Dr. Burney died in 1814, aged eighty-eight.

BURNEY (Charles, D. D.), was the second son of the preceding, and born at Lynn, in Norfolk, in 1757. He was educated at the Charter-house, and Caius College, Cambridge, whence he removed to King's College, Aberdeen, where he took his master's degree, in 1781. Soon after we find him an assistant in an academy at Highgate; and then, at Chiswick, in that of Dr. Rose. While here he wrote some criticisms in the *Monthly Review*, conducted in this neighbourhood, particularly on the *Monstrosities* of Mr. Huntingford. About this time he married the daughter of Dr. Rose, and opened a school at Hammersmith, in 1786; from whence, in 1793, he removed to Greenwich. In 1792 he had obtained the degree of doctor of laws from Aberdeen and Glasgow. Late in life he took orders, on which occasion he was presented to the living of St. Paul, Deptford, the rectory of Cliffe, a prebend in Lincoln cathedral, the honorary degree of D. D. and made chaplain in ordinary to the king. He died, December the 28th, 1817. His library was purchased by parliament, and presented to the British Museum. His works are—1. *Appendix ad Lexicon Græco-Latinum* a Joan. Scapulam, 1789. 2. *Remarks on the Greek Verses of Milton*, 1791. 3. *Richardi Bentleii et Doctorum Virorum Epistolæ*, 4to. 1807. 4. *Tentamen de Metris ab Æschylo in Opericis Cantibus Adhibitis*, 8vo. 1809. 5. *Bishop Pearson's Exposition of the Creed*, abridged, 12mo. 6. *Philemonis Lexicon Græcæ*, 4to. 7. *A Sermon on the Anniversary of the Sons of the Clergy at St. Paul's*, 4to. 1813.

BURNING, considered philosophically, is the action of fire on some pabulum or fuel, by which the minute parts thereof are put into a violent motion, and some of them, assuming the nature of fire themselves, fly off in orbem, while the rest are dissipated in form of vapor, or reduced to ashes.

BURNING, in antiquity, was a method of disposing of the dead, much practised by the ancient Greeks and Romans, and still retained by several

nations in the East and West Indies. The antiquity of this custom rises as high as the Theban war, where we are told of the solemnity accompanying this ceremony at the pyre of Menæceus and Archemorus, who were contemporary with Jair, the eighth judge of Israel. Homer abounds with descriptions of such funeral obsequies. In the inland regions of Asia, the practice was of very ancient date, and the continuance long: for we are told, that, in the reign of Julian, the king of Chionia burnt his son's body, and deposited the ashes in a silver urn. Coeval almost with the first instances of this kind in the East, was the practice in the western parts of the world. The Herulians, the Getes, and the Thracians, had all along observed it; and its antiquity was as great with the Celtæ, Sarmatians, and other neighbouring nations. The origin of this custom seems to have been friendship to the deceased: their ashes were preserved, as we preserve a lock of hair, a ring, or a seal, which had belonged to a deceased friend. Kings were burnt in cloth made of the asbestos, that their ashes might be preserved pure from any mixture with the fuel and other matters thrown on the funeral pile. The same method is still observed with the princes of Tartary. Among the Greeks, the body was placed on the top of a pile, on which were thrown divers animals, and even slaves and captives, besides unguents and perfumes. In Homer's account of the funeral of Patroclus we find a number of sheep and oxen thrown in; then horses followed by two dogs, and lastly by twelve Trojan prisoners. The same customs are mentioned by Virgil in the funeral of his Trojans; where, besides oxen, swine, and all manner of cattle, we find eight youths condemned to the flames. The body was covered with the fat of the beasts, that it might consume the sooner; it being reckoned great felicity to be quickly reduced to ashes. We are assured by Plutarch and Macrobius, that with every ten men it was customary to put in one woman. Soldiers usually had their arms burnt with them. The garments worn by the living were also thrown on the pile, with other ornaments and presents; a piece of extravagance which the Athenians carried to so great a height, that some of the law-givers restrained them, by severe penalties, from defrauding the living by their liberality to the dead. In some cases, burning was expressly forbidden among the Romans, and even looked upon as the highest impiety. Thus infants, who died before the breeding of teeth, were intombed unburnt in the ground, in a particular place set apart for this purpose, called *suggrundarium*. The same was practised with regard to those struck dead by lightning. Some say that burning was denied to suicides. The manner of burning among the Romans was not unlike that of the Greeks; the corpse, being taken without the city, was carried directly to the place appointed; which, if it joined to the sepulchre, was called *bustum*; if separate from it, *ustrina*; and there laid on the *rogus* or *pyra*, a pile of wood prepared on which to burn it, built in shape of an altar, but of different height according to the quality of the deceased. Round the pile they set cypress trees, probably to hinder the noisome smell of the corpse. The body was

not placed on the bare pile, but on the couch or bed whereon it lay. This done, the next of blood performed the ceremony of lighting the pile; which they did with a torch, turning their faces all the while the other way, as if it were done with reluctance. During the ceremony, decursions and games were celebrated; after which came the ossilegium, or gathering of the bones and ashes; also washing and anointing them, and repositing them in urns.

BURNING, in medicine and surgery, denotes the application of an actual cautery See **CAUTERY**.

BURNING, or **BRENNING**, in our old writings, denotes an infectious disease, got in the stews by conversing with lewd women, and supposed to be the same with what we now call the venereal disease.

BURNING ALIVE, among the Romans, was a punishment inflicted on deserters, betrayers of the public councils, incendiaries, and even Christians: It was called crematio. The Jews had two ways of burning; the one called burning of the body, performed with wood and faggots; the other burning of the soul, combustio animæ, performed by pouring scalding hot lead down their throats. Incest in the ascending and descending degrees was thus punished by them. But philanthropy is shocked to reflect, for what trifling crimes this horrid punishment has been inflicted among other nations. Even in our own country, till within these few years, burning alive was the punishment of women, convicted of coining or counterfeiting shillings! Thus was the weaker sex punished in the most barbarous manner, for a trifling felony, which could hardly wrong any individual above the value of a few pence.

BURNING INTERNAL. See **COMBUSTION**.

BURNING GLASSES are commonly made convex and spherical. The small space upon which the collected rays fall, is called the focus; where wood, or any other combustible matter being put, will be set on fire. The term burning glass is also applied to those concave mirrors, whether composed of glass quick-silvered, or of metalline matters, which burn by reflection, condensing the sun's rays into a focus similar to the former. The use of burning glasses appears to have been very ancient. Diodorus Siculus, Lucian, Dion, Zonaras, Galen, Anthemius, Eustathius, Tzetzes, and others, attest, that by means of them Archimedes set fire to the Roman fleet at the siege of Syracuse. Tzetzes is so particular in his account of this matter, that his description suggested to Kircher the method by which it was probably accomplished. According to that author, Archimedes set fire to Marcellus's navy, by means of a burning glass composed of small square mirrors, moving every way upon hinges; which, when placed in the sun's rays, directed them upon the Roman fleet, so as to reduce it to ashes at the distance of a bow-shot. That the ancients were also acquainted with the use of catoptric or refracting burning glasses, appears from a passage in Aristophanes's comedy of the Clouds, which clearly treats of their effects. The author introduces Socrates as examining Strepsiades about the method he had discovered of getting clear of his debts. He replies, that 'he thought of mak-

ing use of a burning glass which he had hitherto used in kindling his fire; for,' says he, 'should, they bring a writ against me, I shall immediately place my glass in the sun at some little distance from it, and set it on fire.' Pliny and Lactantius have also spoken of glasses that burn by refraction. The former calls them balls or globes of glass or crystal, which exposed to the sun, transmit a heat sufficient to set fire to cloth, or corrode the dead flesh of those patients who stand in need of caustics; and the latter, after Clemens Alexandrinus, takes notice that fire may be kindled by interposing glasses filled with water between the sun and the object, so as to transmit the rays to it. It seems difficult to conceive how they should know such glasses would burn without knowing they would magnify, which it is granted they did not, till towards the close of the thirteenth century. M. de la Hire accounts for this, by observing, that their burning glasses being spheres, either solid or full of water, their foci would be one-fourth of their diameter distant from them. If then their diameter were supposed half a foot, which is the most we can allow, an object must be only at an inch and a half distance to perceive it magnified; those at greater distances do not appear greater, but only more confused through the glass than out of it. Among the ancients, the burning mirrors of Archimedes and Proclus are famous. By the latter the navy of Vitellius besieging Byzantium, according to Zonaras, was burnt to ashes. Among the moderns, the most remarkable burning mirrors are those of Settala, Vilette, Tschirnhausen, Buffon, Trudaine, and Parker. Settala, canon of Padua, made a parabolic mirror, which, according to Schottus, burnt pieces of wood at the distance of fifteen or sixteen paces. The following experiments are noted in the *Acta Eruditorum*. 1. Green wood takes fire instantaneously, so as a strong wind cannot extinguish it. 2. Water boils immediately; and eggs in it are presently edible. 3. A mixture of tin and lead, three inches thick, drops presently; and iron and steel plate becomes red-hot presently, and a little after burns into holes. 4. Things not capable of melting, as stones, bricks, &c. become soon red-hot, like iron. 5. Slate becomes first white, then a black glass. 6. Tiles are converted into a yellow glass: and shells into a blackish yellow one. 7. A pumice stone, emitted from a volcano, melts into white glass. 8. A piece of crucible also vitrifies in eight minutes. 9. Bones are soon turned into an opaque glass, and earth into a black one. The breadth of this mirror is near three Leipsic ells, its focus two ells from it; it is made of copper, and its substance is not above double the thickness of the back of a knife. Vilette, a French artist of Lyons, made a large mirror, which was bought by Tavernier, and presented to the king of Persia; a second, bought by the king of Denmark; a third, presented by the French king to the Royal Academy; a fourth, has been in England, where it was publicly exposed. The effects hereof, as found by Dr. Harris, and Dr. Desaguliers, are, that a silver sixpence is melted in seven seconds and a half, a halfpenny in sixteen, and runs with a hole in thirty-four. Tin melts in three seconds, cast iron in sixteen, slate in three; a fossil shell

calceines in seven seconds; a piece of Pompey's pillar at Alexandria vitrifies, the black part in fifty seconds, the white in fifty-four; copper ore in eight seconds; bone calceines in four seconds, vitrifies in thirty-three. An emerald melts into a substance like a turquoise stone; a diamond weighing four grains loses seven-eighths of its weight; the asbestos vitrifies; as all other bodies will do, if kept long enough in the focus; but when once vitrified, the mirror can go no farther with them. This mirror is forty-seven inches wide, and is ground to a sphere of seventy-six inches radius; so that its focus is about thirty-eight inches from the vertex. Its substance is a composition of tin, copper, and tin glass. Every lens, whether convex, plano-convex, or convexo-convex, collects the sun's rays, dispersed over its convexity, into a point by refraction: and is therefore a burning glass. The most considerable of this kind is that made by M. de Tschirnhausen: the diameters of his lenses are three and four feet, the focus at the distance of twelve feet, and its diameter an inch and a half. To make the focus the more vivid, it is collected a second time by a second lens parallel to the first, and placed in that point where the diameter of the cone of rays formed by the first lens is equal to the diameter of the second; so that it receives them all; and the focus, from an inch and a half, is contracted into the space of eight lines, and its force increased proportionably. This glass vitrifies tiles, slates, pumice-stones, &c. in a moment. It melts sulphur, pitch, and all resins, under water; the ashes of vegetables, woods, and other matters, are transmuted into glass; and every thing applied to its focus is either melted, turned into a calx, or into smoke. Tschirnhausen observes, that it succeeds best when the substance applied is laid on a hard charcoal well burnt. Sir Isaac Newton presented a burning glass to the Royal Society, consisting of seven concave glasses, so placed, as that all their foci join in one physical point. Each glass is about eleven inches and a half in diameter; six of them are placed round the seventh, to which they are all contiguous; and they form a kind of segment of a sphere, whose subtense is about thirty-four inches and a half, and the central glass lies about an inch farther in than the rest. The common focus is about twenty-two inches and a half distant, and about an inch in diameter. This glass vitrifies brick or tile in one second, and melts gold in thirty. It appears that glass quicksilvered is a more proper material for burning glasses than metals; for the effects of that speculum where-with Mr. Macquer melted the platina, seem to have been superior to those above mentioned, though the mirror itself was much smaller. The diameter of this glass was only twenty-two inches, and its focal distance twenty-eight. Black flint, when exposed to the focus, being powdered to prevent its crackling and flying about, and secured in a large piece of charcoal, bubbled up and ran into transparent glass in less than half a minute. Hessian crucibles, and glass-house pots, vitrified completely in three or four seconds. Forged iron smoked, boiled, and changed into a vitrescent scoria as soon as it was exposed to the focus. The gypsum of Montmartre, when the

flat sides of the plates or leaves, of which it is composed, were presented to the glass, did not show the least disposition to melt; but, on presenting a transverse section of it, or the edges of the plates, it melted in an instant, with a hissing noise, into a brownish yellow matter. Calcareous stones did not completely melt; but there was detached from them a circle more compact than the rest of the mass, and of the size of the focus; the separation of which seemed to be occasioned by the shrinking of the matter which had begun to enter into fusion. The white calx of antimony, commonly called diaphoretic antimony, melted better than the calcareous stones, and changed into an opaque pretty glossy substance, like white enamel. It was observed, that the whiteness of the calcareous stones and the antimonial calx was of great disadvantage to their fusion, by reason of their reflecting great part of the sun's rays; so that the subject could not undergo the full activity of the heat thrown upon it by the burning glass. The case was the same with metallic bodies, which melted so much the more difficultly as they were more white and polished; and this difference was so remarkable, that in the focus of this mirror, so fusible a metal as silver, when its surface was polished, did not melt at all. M. Trudaine, a French gentleman, constructed a burning lens on a new principle. It was composed of two circular segments of glass spheres, each four feet in diameter, applied with their concave sides towards each other. The cavity was filled with spirit of wine, of which it contained forty pints. It was presented by the maker to the Royal Academy of Sciences, but was, not long after, broken by accident. The expense of constructing it amounted to about £1000 sterling, and after all, it does not appear that the effects of this lens were very great. Mr. Magellan informs us, that it could only coagulate the particles of platina in twenty minutes, while Mr. Parker's lens entirely melted them in less than two.

M. Buffon's burning mirror, which he supposes to be of the same nature with that of Archimedes, consists of a number of small mirrors of glass quicksilvered, all of which are held together by an iron frame. Each of these small mirrors is also movable by a contrivance on the back part of the frame, that so their reflections may all coincide in one point. By this means they are capable of being accommodated to various heights of the sun, and to different distances. The adjusting them in this manner takes up a considerable time; but after they are so adjusted, the focus will continue unaltered for an hour or more. In 1747 he constructed a machine of this kind, with 140 plane mirrors; each about four inches long, and three broad; these were fixed about a quarter of an inch distant from each other, upon a large wooden frame, of about six feet square. The experiment was first tried with twenty-four mirrors, which readily set on fire a combustible matter, prepared of pitch and tow, and laid on a deal board, at the distance of sixty-six French feet. He then put together a kind of polyhedron, consisting of 168 pieces of plane looking glass, each being six inches square; and by means of this some boards of beech were set

on fire, at the distance of 150 feet, in the month of March, and a silver plate was melted at the distance of sixty feet. This machine, besides other advantages, may be easily moved, so as to burn downwards or horizontally; and it burns either in its distant focus, or in any nearer interval, which our common burning glasses cannot do, because their focus is wholly fixed. This machine, in the next stage of its improvement, contained 360 plane mirrors, each eight inches long, and six broad, mounted on a frame eight feet high, and seven broad. With twelve of these mirrors, light combustible matters were kindled at the distance of twenty feet; at the same distance a large tin vessel was melted with forty-five of them, and a thin piece of silver with 117. When the whole machine was employed, all the metals and metallic minerals were melted at the distance of twenty-five, and even of forty feet. Wood was kindled in a clear sky, at the distance of 210 feet. The focus, at the distance of fifty feet, is about seven inches broad; and at the distance of 240 feet, it becomes two feet in diameter. Buffon afterwards constructed a machine which contained 400 mirrors, each half a foot square, with which he could melt lead and tin at the distance of 140 feet. He observes, that in large refracting lenses, which are most convenient for many purposes, the thickness of the glass in the middle is so great, as very much to diminish their force. For this reason he proposes to form a burning glass of concentric or circular pieces of glass, each resting upon the other. His method is to divide the convex arch of the lens into three equal parts. Thus, suppose the diameter to be twenty-six inches, and the thickness in the middle to be three inches: by dividing the lens into three concentric circles, and laying the one over the other, the thickness of the middle piece needs be only one inch; at the same time that the lens will have the same convexity, and almost the same focal distance, as in the other cases; while the effects of it must be much greater, on account of the greater thinness of the glass.

Mr. Parker's lens is three feet in diameter, made of flint-glass, and which, when fixed in its frame, exposes a surface 2 feet 8 inches in the clear. The elevation is represented on plate XLV. fig. 1. A, is the lens of the diameter mentioned: thickness in the centre, $3\frac{1}{4}$ inches: weight 212 pounds: length of the focus, 6 feet 8 inches; diameter of ditto, 1 inch. B, a second lens, whose diameter in the frame is 16 inches, and shows in the clear 13 inches: thickness in the centre $1\frac{1}{2}$ inches: weight 21 pounds: length of focus 29 inches: diameter of ditto, $\frac{3}{4}$ of an inch. When the two above lenses are compounded together the length of the focus is 5 feet 3 inches: diameter of ditto, half an inch. C, a truncated cone, composed of 21 ribs of wood: at the larger end is fixed the great lens A, at the smaller extremity the lesser lens B: near the smaller end is also fixed a rack D, passing through the pillar L, movable by a pinion turning in the said pillar, by means of the handle E, and thus giving a vertical motion to the machine. F, a bar of wood, fixed between the two lower ribs of the cone at G; having,

within a chased mortice in which it moves, an apparatus H, with the iron plate, I, fixed thereto; and this part turning on a ball and socket, K; a method is thereby obtained of placing the matter under experiment, so as to be acted upon by the focal rays in the most direct and powerful manner. LL, a strong mahogany frame, moving on castors, MM. Immediately under the table N, are three friction wheels, by which the machine moves horizontally. O, a strong iron bow, in which the lens and the cone hang. Section, fig. 2. a, the great lens marked A, in the elevation. b, The frame which contains the lens. c, The small lens marked B. d, The frame which contains the small lens. e, The truncated cone, marked C. f, the bar on which the apparatus marked F moves. g, The iron plate marked I. h, The cone of rays formed by the refraction of the great lens a, and falling on the lens c. i, The cone of rays formed by the refraction of the lens c. Front view, fig. 3, k, The great lens. l, The frame containing it. m, The strong iron bow in which it hangs. From a great number of experiments made with this lens, in the presence of many scientific persons, the following are selected as specimens of its powers:—

Substances fused, with their weight and time of fusion.	Weight in Grains.	Time in Seconds.
Gold, pure	20	4
Silver, ditto	20	3
Copper, ditto	33	20
Platina, ditto	10	3
Nickel	16	3
Bar iron, a cube	10	12
Cast iron, a cube	10	3
Steel, a cube	10	12
Scoria of wrought iron	12	2
Kearsh	10	3
Cauk, or terra ponderosa	10	7
A topaz, or chrysolite	3	45
An oriental emerald	2	25
Crystal pebble	7	6
White agate	10	30
Flint, oriental	10	30
Rough cornelian	10	75
Jasper	10	25
Onyx	10	20
Garnet	10	17
White Rhomboidal spar	10	60
Zeolites	10	23
Rotten-stone	10	80
Common slate	10	2
Asbestos	10	10
Common lime-stone	10	55
Pumice-stone	10	24
Lava	10	7
Volcanic clay	10	60
Cornish moor-stone	10	60

A subscription was attempted for the purpose of defraying the expense of this fine instrument, but it failed; and the instrument itself was purchased by captain Mackintosh, who accompanied lord Macartney in his embassy to China; and is now probably deposited among many ingenious and valuable presents, the use of which is unknown to the Chinese.

BURNING PLANT. See EUPHORBIA.

BURNING GLASSES,

Parker's Burning Lens.

Fig. 1.

Elevation.

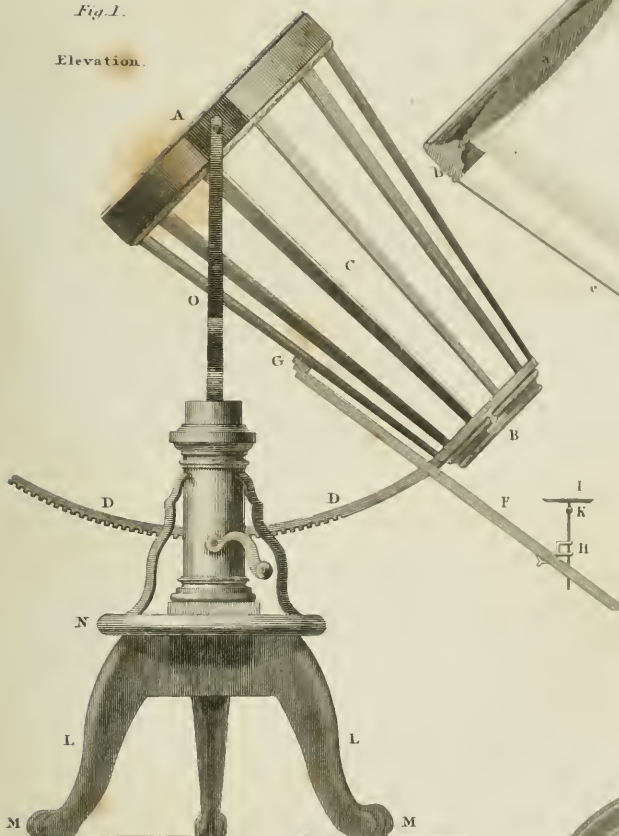


Fig. 2.

Section

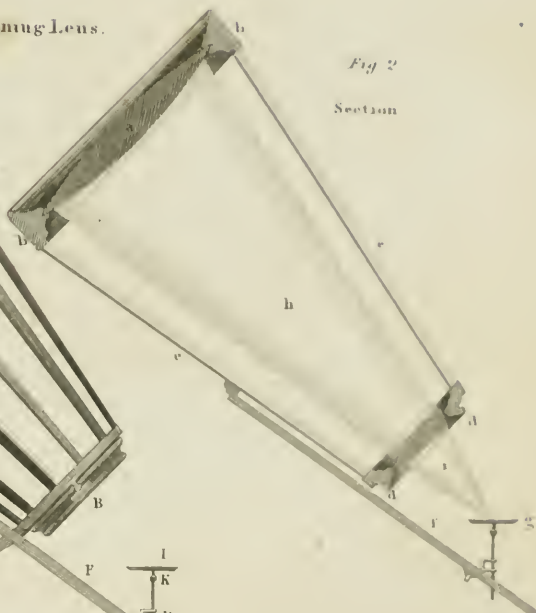


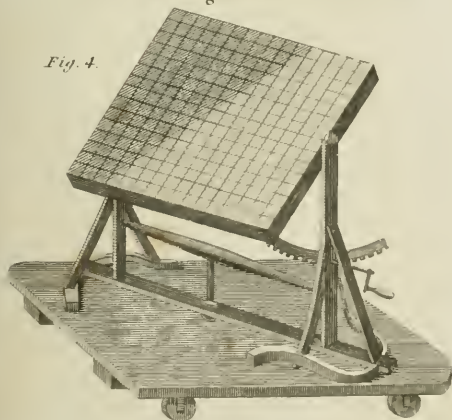
Fig. 3.

Front



Burning Mirror of Archimedes.

Fig. 4.





BURNING SPRINGS. Of these there are many in different parts of the world; particularly one in France, in the department of the Isere, near Grenoble; another near Hermanstadt in Transylvania; a third at Chermay, a village near Switzerland; a fourth in the canton of Friburg; and a fifth not far from the city of Cracow, in Poland. There also is, or was, a famous spring of this kind at Wigan in Lancashire, which, upon the approach of a lighted candle, would take fire and burn like spirit of wine for a whole day. But the most remarkable one, or at least that of which we have the minutest description, was discovered in 1711, at Brosely, in Shropshire. 'The well, for four or five feet deep, is six or seven feet wide; within that is another less hole of like depth dug in the clay, in the bottom whereof is placed a cylindric earthen vessel, of about four or five inches diameter at the mouth, having the bottom taken off, and the sides well fixed in the clay rammed close about it. Within the pot is a brown water, thick as puddle, continually forced up with a violent motion beyond that of boiling water, and a rumbling hollow noise, rising and falling, by fits, five or six inches; but there was no appearance of any vapor rising, which, perhaps, might have been visible had not the sun shone so bright. Upon putting a candle down at the end of a stick, at about a quarter of a yard distance, it took fire, darting and flashing after a very violent manner for about half a yard high, much in the manner of spirits in a lamp, but with great agitation. It was said, that a tea-kettle had been made to boil in about nine minutes, and that it had been left burning for forty-eight hours without any sensible diminution. It was extinguished by putting a wet mop upon it; which must be kept there for a little time, otherwise it would not go out. Upon the removal of the mop there arises a sulphureous smoke, lasting about a minute, and yet the water is very cold to the touch.' In 1755 this well totally disappeared by the sinking of a coal-pit in its neighbourhood. The cause of the inflammable property of such waters is, with great probability, supposed to be their mixture with petroleum, which is one of the most inflammable substances in nature, and has the property of burning on the surface of water.

BURNISHERS, for gold and silver, were formerly made of the teeth of dogs or wolves, set in the end of iron or wooden handles; but for a long time past agates have been introduced and are found preferable. In most cases polished steel answers equally well, as it gives a very good lustre. These are of different forms; straight, crooked, &c. The steel burnishers used by engravers in copper are formed to serve with one end to burnish, and with the other to scrape out errors or scratches.

BURNISHING, the art of smoothing or polishing a metalline body, by a brisk rubbing of it with a burnisher. Book-binders burnish the edges of their books by rubbing them with a dog's tooth.

BURNS (Robert), one of the most eminent of modern Scots poets, was born 25th of January, 1759, on a small farm near the town of Ayr. Of this extraordinary genius, Dr. Currie's account is substantially as follows:—He was the

son of William Burnes, or Burns, a gardener and small farmer, and was brought up to rustic labor; but his education was not neglected, as he was at an early age instructed in the grammar of the English language by Mr. Murdoch (who died not long since in London), to which he added an acquaintance with the French language and practical mathematics. A passion for reading urging him to devote every moment he could spare to the perusal of books, and meeting among them with the works of some of the best English poets, he was enabled to cultivate and improve a taste for poetry and fiction, which was perhaps first inspired by the chimney-corner tales of an old woman in his father's family. His first poetical effusions were prompted by love: having begun, he continued to make verses, which attracted the notice of his neighbours, and he was early esteemed a gay companion. He engaged in business as a flax-dresser in the town of Irvine, but his premises were destroyed by fire, and he was unable to sustain his credit. His father dying, he took a small farm in conjunction with his younger brother, and failed also in this scheme. In the mean time he had formed a connexion with a young woman, whom, on her becoming pregnant, he would have married, but his circumstances induced her friends to object to it; and he engaged himself to embark as overseer to a plantation in Jamaica. He first, however, was induced to publish, by subscription, a volume of poems, which was printed at Kilmarnock, in 1786; and shortly after was shown a letter from Dr. Blacklock, recommending that he should visit Edinburgh, in order to take advantage of the admiration his poems had excited. This advice he eagerly adopted, and remaining more than a year in the metropolis of his country, admired, flattered, and caressed by various persons of eminence, he retired to the country with the sum of £500, which he had realised by the second edition of his poems. With this sum he took a considerable farm near Dumfries. To his great credit, also, he now completed his matrimonial engagement with the female before alluded to: but his convivial habits soon prevented him from paying a proper attention to his farm; and, after a trial of three years and a half, he was obliged to resign his lease, and remove to the town of Dumfries, to follow the employment of an exciseman. Here he occasionally exercised his pen, particularly in the composition of a number of beautiful songs, and as a contributor to periodical works. Intemperance, however, had become his tyrant; and how the honorable friends, who obtained for him the appointment of an exciseman, could imagine that such an office would really benefit his fortunes, we cannot divine. It was just the situation calculated to hurry him into the moral ruin that ensued, and which, finally bringing on inveterate habits of intoxication, hurried him to a premature grave, July 21st, 1796. Mr. Coleridge, alluding with indignation to the circumstance of making this ill-fated son of genius 'a gauger of ale firkins,' calls upon his friend Lamb to gather a wreath of 'henbane, nettles, and nightshade'

————— 'To trace
The illustrious brow of Scotch nobility.'

We have little occasion to attempt a character of him as a poet: it has been often and fairly drawn. It was entirely in contrast with his character as a man. He attempted hardly any thing in civil life in which he succeeded—and scarcely any thing, as a poet, in which he did not succeed. Of the solemn and sublime, his poems entitled the Vision, Dependancy, the Lament, Winter, a Dirge, and the Invocation to Ruin, afford striking examples. Of the tender and the moral, many beautiful specimens are found in the elegaic verses, entitled Man was made to Mourn, in the Cotter's Saturday Night, the Stanzas to a Mouse, and those to a Mountain Daisy. There is scarcely an image more truly pastoral than that of the Lark, in the second stanza of the last named poem; and nothing can exceed the beauty and simplicity of the simile—

As bees flee hame wi' lades of treasure
The minutes winged their way wi' pleasure.

While some few of his poems are immoral, and more of them equivocal in their tendency, it is but just to add that he was never known deliberately to descend to an act of meanness; and the entire picture of his so-named indulgencies and agonies, pleasures and remorse, is by no means a tempting one. His picture is honestly drawn by his own pen, in a proposed epitaph for himself:—

Is there a whim-inspired fool,
Owre fast for thought, owre hot for rule,
Owre blate to seek, owr proud to snoul?
Let him draw near;
And owre this grassy heap sing dool,
And drap a tear.

Is there a bard of rustic song,
Who, noteless, steals the crowds among,
That weekly to this area throng?
O pass not by!

But with a frater-feeling strong,
Here, heave a sigh.
Is there a man whose judgment clear
Can others teach the course to steer,
Yet runs himself life's mad career,
Wild as the wave?
Here pause—and, through the starting tear,
Survey this grave.

The poor inhabitant below
Was quick to learn and wise to know,
And keenly felt the friendly glow,
And softer flame;
But thoughtless follies laid him low,
And stain'd his name.

Reader, attend.—Whether thy soul
Soars fancy's flight beyond the pole,
Or darkling grubs this earthly hole,
In low pursuit;
Know, prudent, cautious, self-control,
Is wisdom's root.

We should not omit to state that Burns was a prose writer of pieces as extraordinary, for his situation, as any of his poetical performances. His letters exhibit a purity and facility of expression which would be admired in any condition; and they abound with those marks of elegance, variety, and vigor, which distinguish genius. With one of these, which may serve as a prose sketch of his own character, we conclude:—‘Take a being of our kind, give him a

stronger imagination and more delicate sensibility, which between them will ever engender a more ungovernable set of passions than are the usual lot of man; implant in him an irresistible impulse to some idle vagary, such as arranging wild flowers in fantastic nosegays, tracing the grasshopper to his haunt by his chirping song, watching the frisks of the little minnows in the sunny pool, or hunting after the intrigues of butterflies; in short, send him adrift after some pursuit which shall eternally mislead him from the paths of lucre, and yet curse him with a keener relish than any man living for the pleasures that lucre can bestow; lastly, fill up the measure of his woes by bestowing on him a spurning sense of his own dignity;—and you have created a wight nearly as miserable as the poet.’

BURNTISLAND, a royal burgh and sea-port town, of a parish of the same name. The town is finely situated on a peninsula of the Frith of Forth, surrounded by hills on the north, in the form of an amphitheatre, which afford an excellent shelter for ships. It consists of two streets, running parallel to each other. The principal street is broad and spacious, containing a number of respectable buildings. It was formerly fortified, and part of the wall and east port still remain. It has the best harbour on the coast, formed by a rocky isle, with piers; a large dock has also been constructed here, with seventeen feet and a half of water at spring tides. The church is square, with a steeple rising in the centre, and was built by the inhabitants, in 1592, at their own expense. This place held out against Cromwell, till he was obliged to enter into conditions with the inhabitants; part of which were, that he should repair the streets and harbour; in consequence of which the quays, as they now stand, were built by him. In 1715 this town was surprised and possessed by the rebels, who formed the bold design of passing over a body of troops to the opposite shore; which was in part executed under the command of brigadier Macintosh, notwithstanding all the efforts of the men of war. It joins with Kircaldy, Kinghorn, and Dysart, in sending a member to parliament. The government is vested in twenty-one persons, viz. fourteen guild counsellors, out of whom are chosen three bailies; and seven trades counsellors. A provost is also elected annually. There is here a sugar-house, belonging to a Glasgow company, and vitriol-works. Ship-building is also carried on by a few hands; and about twelve or fifteen tons of kelp are annually made.

BURR, *n. s.* The lobe or lap of the ear.
BURR, among huntsmen, the round knob of a horn next a deer's head.

BURR PUMP, in a ship, a pump by the side of a ship, into which a staff seven or eight feet long is put, having a burr or knob of wood at the end, which is drawn up by a rope fastened to the middle of it; called also a bilge pump.

BURRA, an island of Scotland, in the county of Shetland.

BURRAMAHAL. See **BARRAMAHAL**.
BURRAMPOOTER, or **BRAMPOOTRA**, a river of India, of considerable magnitude, of which the first account is given by J. Rennel,

Esq.; in the seventy-first volume of the Philosophical Transactions: the Burrampooter, says he, which has its source from the opposite side of the mountains that give rise to the Ganges, first takes its course eastward through the country of Thibet, where it is named Sanpoo or Zancu, which bears the same interpretation as the Ganga of Hindostan, namely the river. After winding with a rapid current through Thibet, it washes the border of the territory of Lassa, and then deviating from an east to a south-west course, it approaches within 220 miles of Yunan, the most westerly province of China. Here it appears as if undetermined whether to attempt a passage to the sea by the Gulf of Siam, or by that of Bengal; but it turns suddenly to the north-west, through Assam, and enters Bengal on the north-east. It now makes a circuit round the western point of the Garrow Mountains, and then altering its course to the south, in the Dacca province, is joined by the Megna, which, although not the tenth part of its size, receives and absorbs its name; henceforward communicating its own to the great mass of waters, until they intermix with those of the Ganges, near the Bay of Bengal. The whole known course of this river, including its windings, may be estimated at 1650 miles; but it is the fate of the Brahmapootra to penetrate a rude climate and stubborn soil, seldom approaching the habitation of civilised men; while the Ganges, on the contrary, waters a fertile territory, through rich and polished nations. The Brahmapootra, unknown in Europe as a capital river of India, until 1765, bears, during a course of 400 miles through Bengal, so intimate a resemblance to the Ganges, that one description answers both, except that, during the last sixty miles before their junction, under the name of Megna, it forms a stream, which is regularly from four to five miles wide, and, but for its freshness, might pass for an arm of the sea. The union of these two mighty rivers below Luckipoor now forms a gulf interspersed with large islands. The Bore, which is a sudden and abrupt influx of the tide into a river or narrow strait, prevails in the principal branches of the Ganges, and in the Megna; but the Hooghly river, and the passages between the islands and sands, situated in the gulf, formed by the confluence of the Brahmapootra and Ganges, are more subject to it than the rest of the rivers.

BURRAS PIPE, with surgeons, an instrument or vessel used to keep corroding powders in, as vitriol, precipitate &c.

BURREL, *n. s.* A sort of spear, otherwise called the red butter pear, from its smooth, delicious, and soft pulp.

BURREL FLY, *n. s.* Fr. *bourreler*, to execute, to torture. An insect, called also oxfly, gadbee, or breeze.

BURREL SHOT. From *bourreler*, to execute, and shot, in gunnery, small bullets, nails, stones, pieces of old iron, &c. put into cases, to be discharged out of the ordnance; a sort of case shot.

BURROCK, *n. s.* A small wear or dam, where wheels are laid in a river for catching of fish.

BUR'ROW, *v. & n.* } Sax. beorgan, byrgan
Bur'rowy. } to defend, to protect.
Properly borough, a corporation town. A hole in the ground; a den; a concealment. To make holes in the ground for concealment; from the noun.

When they shall see his crest up again, and the man in blood, they will out of their burrows, like conies after rain, and revel all with him. *Shakspeare.*

King of England shalt thou be proclaimed
In every burrow, as we pass along. *Id.*

And through the palaces' foundations bore,
Burrowing themselves, to hoard their guilty store.

Marvell.

Possession of land was the original right of election among the commons; and burrows were entitled to sit, as they were possessed of certain tracts.

Temple.

Sir, this vermin of court reporters, when they are forced into day upon one point, are sure to burrow in another; but they shall have no refuge; I will make them bolt out of all their holes.

Burke's Speech on American Taxation.

Some strew sand among their corn, which, they say, prevents mice and rats burrowing in it; because of its falling into their ears. *Mortimer.*

Little sinuses would form, and burrow underneath.
Sharp.

BURROW (Sir James), master of the crown office, was elected F. R. S. and F. A. S. 1751. On the death of Mr. West, in 1772, he was prevailed on to fill the president's chair at the Royal Society till the anniversary election, when he resigned it to Sir John Pringle: and August 10th, 1773, when the society presented an address to the king, he was knighted. He published two volumes of Reports in 1766; two others in 1771 and 1776; and a volume of Decisions of the Court of King's Bench, upon settlement cases from 1732 to 1772 (to which was subjoined An Essay on Punctuation), in 3 parts, 4to. 1768, 1772, 1776. The Essay was also printed separately in 4to. 1773. He published, without his name, A few Anecdotes and Observations relating to Oliver Cromwell and his family, serving to rectify several errors concerning him; published by Nicol. Conn. Papadopolis, in his Historia Gymnasii Patavina, 1763, 4to. He died in 1782.

BURR-PUMP, or **BILGE-PUMP**, differs from the common pump, in having a staff six, seven, or eight feet long, with a bar of wood, whereto the leather is nailed, and this serves instead of a box. Two men, standing over the pump, thrust down this staff, to the middle whereof is fastened a rope, for six, eight, or ten men to hale by, thus pulling it up and down.

BURR REED. See **SPARGANIUM**.

BURSA, **BURSE**, originally signifies a purse. In writers of the middle age it is more particularly used for a little college, or hall in a university, for the residence of students, called bursales or bursarii. In some universities it still denotes a foundation for the maintenance of poor scholars in their studies. The nomination to burses is in the hands of the patrons and founders thereof. The burses of colleges are not benefices, but mere places assigned to certain countries and persons. A burse becomes vacant by the bursar's being promoted to a cure.

BURSA, or PRUSA, the capital of Bithynia, in Asia Minor, situated in a fine fruitful plain, at the foot of mount Olympus, about seventy-five miles S. S. W. of Constantinople. It is one of the largest and finest cities of Asiatic Turkey, and contains 40,000 Turks, besides 300 families of Greeks, 400 of Jews, and 500 of Armenians. It was the capital of the Turkish empire, before the taking of Constantinople. Part of it stands on several small hills, at the foot of Olympus. The plain is covered with mulberry and various other fruit trees. The mosques and caravanseras are elegant; and so many springs proceed from Olympus that every house has its fountain. The bazaar contains all the commodities of the east. It also abounds in their own manufactures; the best workmen in Turkey residing in this town, and being excellent imitators of the French and Italian artists; particularly in tapestry.

BURSA, in zoology, a species of alcyonium, inhabiting the coasts of Europe, and commonly called the sea purse.

BURSA MUCOSA. A mucous bag, composed of membranes, containing a kind of mucous fat. The bursæ are of different sizes and firmness, and are connected by the cellular membrane with articular cavities, tendons, ligaments, or the periosteum. Their use is to secrete and contain a substance, to lubricate tendons, muscles, and bones, in order to render their motion easy. See MUSCLES, and Dr. Monro has published a detailed account of the bursæ, to which the reader is also referred.

BURSARIA, the bursary, or exchequer of collegiate and conventual bodies; or the place of receiving, paying, and accounting by the bursars.

BURSARIA, in botany. Class pentandria, order monogynia. Its generic characters are: CAL. deeply divided into five segments: COR. petals five, linear: PIST. short style; stigma simple: CAPS. heart-shaped, one-celled, opening into two parts, each with two valves, and two horns: SEEDS two. There is but one species, viz. *B. spinosa* a shrub of New Holland.

BURSARIA, in entomology, a species of aphid, found in the hollow excrescences which it forms in the leaves of the black poplar.

BURSARIA, in zoology, a species of sertularia, an inhabitant of the British coasts. The denticles are opposite, branched, and dichotomous; called in English the shepherd's purse coralline.

BURSE', } Barb. Lat. *bursarius*; Fr.
BURSAR, } *bourse*, a purse; *boursier*,
BURSARSHIP. } a scholar pensioned at a college; Goth. *biorghus*, an exchange house; a place for money or mercantile transactions. The term bursar specifically means the treasurer of a college; and a scholar who has a pension from it.

It has been considered as of so much importance, that a proper number of young people should be educated for certain professions, that sometimes the public, and sometimes the piety of private founders, have established many pensions, scholarships, exhibitions, *bursaries*, &c. for this purpose.

Smith's Wealth of Nations, b. 1. c. x.

BURSE, Guicciardini assures us, was first applied to a commercial edifice at Bruges, and took its rise from an hotel, built by a lord of the family de la Bourse, whose arms, which are three purses, are still found on the crowning over the portal of the house. The most considerable bourse is that of Amsterdam, which is a large building, 230 feet long and 130 broad, round which runs a peristyle twenty feet wide. The columns of the peristyle, which are forty-six, are numbered, for the convenience of finding people. It will hold 4500 persons. The ancient Romans had public places for the meetings of merchants in most of their trading cities; that built at Rome, A. U. C. 259, under the consulate of Appius Claudius and Publius Servilius, was denominated the college of merchants; some remains of it are still to be seen, and are known by the modern Romans under the name *loggia*. The Hans towns, after the example of the Romans, gave the name of colleges to their burses.

BURSERIA, in botany, a genus of the diœcia order, belonging to the hexandria class of plants. The CAL. is triphyllous; the COR. tripetalous; the CAPS. carnos, trivalved, and monospermous. There is but one species; viz. *B. gummifera*, or gum elemi. It is frequent in woods in most of the Bahama Islands, and grows speedily to a great height and thickness. The leaves are pinnate; the middle rib three or six inches long, with the pinnæ set opposite, on foot-stalks half an inch long. It has yellow flowers, male and female on different trees. These are succeeded by purple-colored berries, bigger than large peas, hanging in clusters on a stalk of about five inches long, to which each berry is joined by a foot-stalk half an inch long. The seed is hard, white, and of a triangular figure, enclosed within a thin capsule, which divides in three parts, and discharges the seed. The fruit when cut discharges a clear balsam, esteemed a good vulnerary, particularly for horses. On wounding the bark, a thick milky liquor is obtained, which soon concretes into a resin no way different from the gum elemi of the shops.

BURSERY, 1. A Privilege to attend a college in Scotland, without paying fees: 2. A salary bestowed for that purpose at the disposal of some patron: 3. The treasury of a college or monastery.

BURST', v. & n. or BRUST'. Goth. *brusta*, *borsta*; Swed. *brista*; Belg. *borsten*; Sax. *burstan*; Teut. *bursten*; to break; fly open; rupture; to rush; to gush forth. It is applied to the violent inflammation produced by the passions, when we say of an individual he is ready to burst with rage; to suffer a violent disruption; to break suddenly. *Burst* and *brusta* are terms employed to designate hernia of the uncompendious kind.

Sire! I wol be your humble trewe wif,

Have here my trouth, till that myn herte *burste*.

Chaucer's Canterbury Tales.

With that she wept and wailed, as if her heart
Would quite have *burst* through great abundance of
her smart.

Spenser.

My breast I'll *burst* with straining of my courage,
And from my shoulders crack my arms asunder,
But I will chastise this high-minded strumpet.

Shakspeare.

He fastened on my neck, and bellowed out,
As if he would *burst* heaven.

Yet I am thankful; if my heart were great,
'Twould *burst* at this.

Down they came, and drew
The whole roof after them, with *burst* of thunder
Upon the heads of all.

Milton.

The egg, that soon
Bursting with kindly rupture, forth disclosed
The callow young.

Id.

She *burst* into tears, and wrung her hands.

Arbutnot.

We lye examining ourselves, and are ready to
burst,

Yet still are no wiser than we were at first.

Swift.

Imprisoned fires, in the close dungeons pent;
Roar to get loose, and struggle for a vent;
Eating their way, and undermining all,
Till with a mighty *burst* whole mountains fall.

Addison.

You *burst*, ah, cruel! from my arms,
And swiftly shoot along the Mall,
Or softly glide by the canal.

Pope.

But lust of power's a dropsy on the mind,
Whose thirst increases, while we drink to quench it,
Till swollen and stretched by the repeated draught,
We *burst* and perish.

Higgon's Generous Conqueror.

What then is unbelief? 'tis an exploit:
A strenuous enterprise: to gain it, man
Must *burst* through every bar of common sense.

Young's Night Thoughts.

'Then *bursting* broad the boundless shout to heaven
From many a thousand hearts ecstatic sprung.

Thomson's Liberty.

If the worlds

In worlds inclosed, should on his senses *burst*,
He would abhorrent turn.

Thomson.

Once more through all he *bursts* his thundering way.

Byron.

BURSLEM, a market town of Staffordshire, famous for its pottery, which stands on a rising ground near the Trent and Mersey canal, which, about a mile hence, passes by a tunnel under ground, the length of 1888 yards. The church has a square tower, and was formerly a chapel of ease to Stoke. It has a neat market-house, and markets on Monday and Saturday. Fairs 22d March, 28th June, and 17th October. Distant three miles from Newcastle-under-Lyne, and 151 from London.

BURTON (Henry), a puritan divine, was born at Birsall, in Yorkshire, in 1579; educated at Cambridge, and took his degrees of M.A. and B.D. there and at Oxford. He first was tutor to lord Carey's sons; afterwards clerk of the closet to the princes Henry and Charles; and next appointed to attend the latter into Spain, in 1623; but, from speaking too freely of the bishops, was set aside, after his goods were partly shipped. In 1625 he presented a letter to king Charles, remonstrating against Drs. Laud and Neil, as being popishly affected; for which he was prohibited the court. About this time, however, he obtained the rectory of St. Matthews, London, where he preached with such freedom, that in 1636 he was summoned to answer for two sermons on the 5th of November preceding. He appealed to the king, but was suspended by the high commission court; whereupon he absconded, but published his sermons, with reasons for his appeal. He was soon after apprehended by

warrant from that state inquisition, the star-chamber; incarcerated in Fleet prison along with the celebrated Prynne and Bastwick; and all his papers seized. They were charged with writing seditious, schismatical, and libellous books, against the church and government. They gave in answers, but the court expunged the greater part of them, and to its eternal disgrace, sentenced them to pay a fine of £5000 each; and Burton besides to be degraded from his office and degrees, deprived of his benefice, set in the pillory, there to have his ears cut off, and to be afterwards imprisoned for life, denied the use of paper, pens, and ink, and debarred the access of all persons except the keeper,—not even his wife being permitted to see him. After twelve weeks close confinement in Lancaster jail, he was removed in 1637 to Cornet castle, in Guernsey, where he was shut up for three years, till 1640, when the House of Commons reversed the sentence as illegal, annulled the fine, restored him to his degrees and benefice, and voted him £6000 as a compensation for his imprisonment and the loss of his ears. From the confusion of the times, however, he never received this sum, though he was restored to his living. He died in January, 1648.

BURTON (John), D.D. a learned divine, born in 1696, at Wembworth, in Devonshire, and educated at Oxford. In 1725, being then proctor, he spoke a Latin oration, entitled *Heh; or An Instance of a Magistrate's Erring through Unseasonable Lenity*; written and published with a view to encourage the salutary exertions of academical discipline; and afterwards treated the same subject still more fully in four Latin sermons before the university, and published them with appendixes. He also introduced into the schools, Locke, and other eminent modern philosophers, as suitable companions to Aristotle; and printed a double series of philosophical questions, for the use of the younger students; from which Mr. Johnson, of Magdalene College, Cambridge, took the hint of his larger work of the same kind. When the settling of Georgia was in agitation, in 1732, Dr. Burton preached before the Society, and published his sermon, with an appendix on the state of that colony; and he afterwards published an account of the designs of the associates of the late Dr. Bray, with an account of their proceedings in that business. About the same time, on the death of Dr. Edward Littleton, he was presented by Eton College to the vicarage of Maple-Derham, in Oxfordshire, where he married the widow of his predecessor, who was without a home, and without a fortune. In 1760 he exchanged his vicarage of Maple-Derham for the rectory of Worplesdon in Surrey. In his advanced age, finding his eyes begin to fail, he collected and published, in one volume, all his scattered pieces, under the title of *Opuscula Miscellanea*; and soon after died, February the 11th, 1771.

BURTON (Robert), known to the learned by the name of Democritus junior, was the son of Ralph Burton Esq. of Lindley, in Leicestershire, and born February 8th, 1576. He was educated at Sutton Colefield in Warwickshire; in 1593 was sent to Oxford; and in 1599 was elected

student of Christ-Church. In 1616 the vicarage of St. Thomas in Oxford was conferred upon him by the dean and canons of Christ-Church; and this, with the rectory of Segrave in Leicestershire, given him some time after by George lord Berkely, he held to his death, in January 1639. He was a man of general learning, and an exact mathematician; extremely studious, and of a melancholy turn; yet an agreeable companion, it is said, and very humorous. The *Anatomy of Melancholy* was printed first in 4to, afterwards in folio, in 1624, 1632, 1638, and 1652, to the great emolument of the bookseller. He was buried in the cathedral of Christ-Church, and had a monument erected to his memory with the following epitaph, said to have been his own composition:—

Paucis notus, paucioribus ignotus,
Hic jacet Democritus Junior;
Cui Vitam pariter et mortem
Dedit Melancholia.

He left behind him a very choice collection of books: bequeathed many to the Bodleian library; and £100 to Christ-Church, the interest of which was to be laid out yearly in books for their library.

BURTON UPON TRENT, a borough and market town of Staffordshire. It had formerly a large abbey, and over the Trent it has a famous bridge of free stone, about a quarter of a mile in length, supported by thirty-seven arches. It consists chiefly of one long street, reaching from the place where the abbey stood to the bridge; and has a good market for corn and provisions. Near the abbey stood the ancient parish church of St. Modwena, which was connected with the abbey by a cloister; but it was taken down, and the present church erected, in 1722, on a smaller scale. It is neat and convenient, with spacious galleries; it has also an organ. The church is a perpetual curacy, exempt from episcopal jurisdiction; in the patronage of the marquis of Anglesea, who is also impropiator of the tithes to a considerable amount. The marquis is also lord of the manor of Burton and its hamlets; and the remains of the abbey are now his manor-house. He holds annually two court-leets, under the management of the perpetual bailiff and coroner; and also two probate-courts, for proving wills, &c. Here is also a court of request for the recovery of small debts; and the inhabitants are exempt from serving any county juries. This place is famous for the excellence of its ale and malt, which is sent down the river to Hull, and forwarded thence through the whole kingdom, and to the different ports on the continent. It has manufactures of hats, cotton, tammies, and one for the purpose of converting bloom and scrap iron into bars. In the market-place is a neat town-hall. In this the public business of the town is transacted, and it also serves as a concert and assembly-room. Here are a free-school, several Sunday-schools, and two alms-houses for poor women. The market on Thursday is well supplied with all kinds of meat, corn, poultry, &c. Fairs, Candlemas-day for cattle, &c. April 5th. Ascension-day, October 29th, and five following days, for cheese, horses, &c.

BURY',
BURY'ER,
BURY'ING,
BU'RIAL,
BU'RIAL PLACE. } Goth. *burja*, *byrgia*;
Sax. *burgian*; Teut. *ber-*
gan, to conceal; to inter;
to put into the grave;
into a place of secrecy
and safety.

Seint Urban with his dekenes, prively,
The body fette, and buried it by night,
Among his other scintes, honestly.

Chaucer's *Canterbury Tales*.

Troy, that art now nought but an idle name,
And in thine ashes buried low dost lie. Spenser.

This is the way to make the city flat,
And bury all, which yet distinctly ranges,
In heaps and piles of ruin. Shakspeare.

Nor would we deign him burial of his men. Id.

Slave! thou hast slain me!
If ever thou wilt thrive, bury my body. Id.

See my wealthy Andrew docked in sand,
Vailing her high top lower than her ribs,
To kiss her burial. Id. Merchant of Venice.

The rude scene may end,
And darkness be the burier of the dead.

Id. Henry IV.

We have great lakes, both salt and fresh; we use them for burials of some natural bodies; for we find a difference of things buried in earth, and things buried in water. Bacon.

Ah! would those treasures which both Indies
have,

Were buried in as large and deep a grave!
War's chief support with them would buried be,
And the land owe their peace unto the sea. Murvell.

The office of the church is performed by the parish priest, at the time of interment, if not prohibited unto persons excommunicated, and laying violent hands on themselves, by a rubrick of the burial service. Ayliffe's *Paregon*.

The place was formerly a churchyard, and has still several marks in it of graves and burying-places.

Spectator.

And vice that digs her own voluptuous tomb,
Had buried long his hopes no more to rise. Byron.

BURY, ST. EDMUND'S, a borough, market, and county town of Suffolk, lies in a pleasant situation, ten miles east of Newmarket, and seventy-one N. N. E. of London. It was so named from St. Edmund, king of the East-Angles, who was crowned in it, and afterwards murdered by the Danes; and being buried in it, an abbey was erected to his honor by Sigbert, king of the East-Angles. It was situated between the two churches, which are both large, handsome buildings, with elegant windows and fine roofs, and in one church-yard. The town was burnt by Sueno the Dane; and Stow says it had the privilege of a mint, in the reign of king John. In 1636 it was infested with a dreadful plague. In 1772 some laborers, in digging among the ruins of the abbey, discovered a leaden coffin, which contained the body of Thomas Beaufort, son of John of Gaunt, duke of Lancaster; he was duke of Exeter, admiral and captain of Calais, and lord high chancellor of England. It sends two members to parliament, who are elected by the corporation; which consists of a recorder and twelve burgesses, a coroner, and twenty-four common council. This place, from the healthiness of its situation, is sometimes called the Montpelier of England. It is divided into five

wards, and has thirty-five streets, which are well paved and kept clean, most of them intersecting each other at right angles. Including the suburbs, it is a mile from east to west, and nearly two miles from south to north. It has a spacious guildhall, and a beautiful cross, surrounded with iron railings. It has likewise a handsome market place for fish and provisions; built at the expense of the earl of Bristol. Here is also a free grammar-school, founded by Edward VI. and various other charitable institutions. Large quantities of wool are annually brought hither, and exposed for sale in the wool-halls. The county assizes are held in this town. The county gaol is a convenient and spacious building near the town, and the bridewell was formerly a Jews' synagogue. Market-day, Saturday.

BUSBY (Dr. Richard), son of Richard Busby, Esq. of Westminster, was born at Lutton, in Lincolnshire, in 1606. He passed through the classes in Westminster, and completed his studies at Oxford, where he took a Master's degree in 1631. In 1640 he was appointed master of Westminster school; and by his skill and diligence in the discharge of this important and laborious office for the space of fifty-five years, educated the greatest number of eminent men in church and state, that ever at one time adorned any age or nation. He is said to have been extremely severe with his pupils; though rather from a love of discipline than from disposition, as he permitted, at times, the free exercise of their juvenile witticisms against himself. This great man, after a long and healthy life, the effect of temperance, died in 1695, aged eighty-nine; and was buried in Westminster Abbey, where there is a fine monument erected to him. He composed several books for the use of the school.

BUSCH (John George), a native of Lunenburg, and director of the Academy of Commerce at Hamburg, was born in 1728, and wrote several works in German, on commerce and political economy, as 1. *The Theory of Commerce*, 3 vols. 8vo. 2. *On Banks*, 8vo. 3. *On the Circulation of Money*, 3 vols. 8vo. 4. *Essays on Commerce*, 2 vols. 8vo. 5. *On Mathematical Studies*, as applicable to Civil Life, 8vo. 6. *Encyclopedia of Mathematics*, 8vo. 7. *Experience and Observations*, 5 vols. 8vo. 8. *An Account of the Commercial Academy of Hamburg*, 12mo. 9. *The Merchant's Library*, a periodical work. He died after 1800.

BUSCHING (Anthony Frederic), an able writer on history and geography, was a native of Westphalia, and educated at the university of Halle. He accompanied the family of count Lynar, as tutor, on an embassy from the Danish court to Petersburg, in 1749. In 1754 he was appointed professor of philosophy, and subsequently of divinity at Gottingen, in which offices he was the advocate of very liberal opinions; and he removed to Petersburg, to become the minister of a Lutheran church in 1761, and founded there a very extensive seminary of education. Other disputes afterwards compelled him to remove to Altona; and in 1766 he accepted the post of director of a gymnasium at Berlin, where he died in May 1793, in the sixty-ninth year of his age. He was a useful, rather than

a polished or very accurate writer; but the science of modern geography is much indebted to his labors. The most celebrated of his works are, *General Geography*, 6 vols. 4to. An Introduction to the *Descriptive Geography of the States of Europe*. A *Magazine of Modern History and Geography*, 22 vols. 4to. A *Weekly Account of New Maps*, published periodically from 1767 to 1783. *Biography of Celebrated Men*, 6 vols. 8vo. *Character of Frederic II. king of Prussia*. *Elements of Natural History*. *Sketch of the History of Philosophy*, 2 vols. 8vo. *History and Theory of the Belles Lettres*, 2 vols. 8vo. Busching also wrote tracts on theology, and on general education.

BUSI', Swed. *buske*; Bel. *bosch*; **BUSHMENT**, } Dan. *buske*, Teut. *busch*; Ital. **BUSINESS**, } *bosco*; Fr. *bois*; a thick shrub; **BUSIN'**, } a thicket; a wood; a whole wood: now applied to a low tree or shrub with thick small boughs or roots, and to any thing similar, as bushy eyebrows; a bushy wig; many things that thicken by growth and combination.

For out of tounne we list to gone,
The sound of birdes for to here,
That on the bushes singen clere.

Chaucer's Romaunt of the Rose.

She darst the wilde bestes dennes seke,
And rennen in the mountaignes all the night,
And slepe under the bush.

Id. Canterbury Tales.

These blazing starres the Greeks call cometas, our Romanes crinitas: dreadfull to be seene, with bloudie haire, and all over rough and shagged in the top, like the bush of hair upon the head.

Holland's Plinie, vol. i. fol. 15.

Moreover a goodly broad bushtail they (the squirrels) have, wherewith they cover their whole body.

Id. vol. i. fol. 218.

The gentle shepherd sat beside a spring,
All in the shadow of a bushy brier.

Spenser.

Princes thought how they might discharge the earth of woods, briars, bushments, and waters, to make it more habitable and fertile.

Raleigh.

If it be true that good wine needs no bush, 'tis true that a good play needs no epilogue.

Shakespeare.

The roses bushing round

About her glow'd, half stooping to support
Each flower of tender stalk.

Milton.

Generally the cutting away of boughs and suckers, at the root and body, doth make trees grow high; and, contrariwise, the polling and cutting of the top, make them spread and grow bushy.

Bacon.

The poller and exacter of fees, justifies the resemblance of the courts of justice to the bush, whereunto while the sheep flies for defence from the weather, he is sure to lose part of the fleece.

Id. Essays.

Her heart was that strange bush, whose sacred fire Religion did not consume, but inspire.

Dunne.

A gushing fountain broke
Around it, and above, for ever green,
The bushing alders formed a shady scene.

Pope's Odyssey.

Statues of this god, with a thick bushy beard, are still many of them extant in Rome.

Addison.

Bush, among huntsmen, a fox's tail.

Bush, BURNING, the bush wherein the Lord appeared to Moses at the foot of mount Horeb, as he was feeding his father-in-law's flocks. As to the person that appeared in the bush, the text

says, 'That the angel of the Lord appeared unto him in a flame of fire, out of the middle of the bush;' but whether it was a created angel, speaking in the person of God, or God himself, or (as the most received opinion is), Christ the son of God, has been a matter of some controversy among the learned. See ANGEL. The emblem of the burning bush is used as the seal of the church of Scotland, with this motto: 'Though burning, never consumed.'

BUSHEL, a measure of capacity for things dry; as grain, pulse, dry fruits, &c. containing eight gallons, or one-eighth of a quarter. Du Cange derives the word from *busellus*, *bustellus*, or *bissellus*, a diminutive of *buz*, or *buza*, used in the corrupt Latin for the same thing; others derive it from *bussulus*, an urn wherein lots were cast; which seems to be a corruption from *buxulus*. *Bussellus* appears to have been first used for a liquid measure of wine, equal to eight gallons. *Octo libræ faciunt galonem vini, et octo galones vini faciunt bussellum London, quæ est octava pars quarterii*. It was soon after transferred to the dry measure of corn of the same quantity. See ARITHMETIC, where the contents of the new bushel are particularly specified. At Paris the bushel is divided into two half bushels; the half bushel into two quarts; the quart into two half quarts; the half quart into two litrons; and the litron into two half litrons. See MEASURE and WEIGHT.

BUSHEL. Fr. *boisseau*; barb. Lat. *bischefila*, *schefila*, from *σκαφη*, a modus, a measure of eight gallons.

And then, they found
Of Floreins fine, of gold yceined round,
Wel nigh an eighte *bushels* as him thought.

Chaucer's Canterbury Tales.

His reasons are as two grains of wheat hid in two *bushels* of chaff; you shall seek all day ere you find them; and when you have them, they are not worth the search. *Shakspeare.*

The worthies of antiquity bought the rarest pictures with *bushels* of gold, without counting the weight or the number of pieces. *Dryden.*

BUSHIRE, or **BUSHAVIR**, a sea-port town of Persia, situated on the Persian Gulf, in the province of Fars. It occupies the southern extremity of a peninsula; but in high tides and storms it has sometimes been completely insulated. The town is of a triangular form, and fortified on the land side by a mud wall, mounting twelve pieces of cannon, and the streets are very narrow, and it is but a mean place. Provisions and fruits are cheap and excellent in Bushire, but the water must be brought from a distance of two miles, nor is it good nearer than sixteen miles. A considerable trade is carried on here in carpets, Shiraz wine, rose water, drugs; and the imports are Indian goods of different kinds, and English broad cloth. The English East India Company have a factory at this place. Population 5000. Distant ten miles W. S. W. of Shiraz, and twenty south of Bender Rigkh.

BUSIRIS, in entomology, a species of papilio, with black oblong wings; on the anterior pair are two yellow spots, and on the posterior ones a yellow disk. This is a native of Hindostan.

BUSIRIS, in ancient geography, a city of the Lower Egypt, south of Leontopolis, on the Busiriticus, built by Busiris. In this city there stood a great temple of Isis, which gave it the appellation of the city of Isis. It was destroyed on a revolt, by Dioclesian.

BUSIRIS, in fabulous history, a tyrant of Egypt, noted for his cruelty, and slain by Hercules. Strabo denies such a tyrant ever existed; Isocrates has written his panegyric.

BUSIRTICIUS FLUVIUS, in ancient geography, that branch of the Nile which empties itself at the mouth called Ostium Pathmeticum, or Phatniticum; also a part, according to an ancient map, at the Ostium Mindesium; this branch dividing at Diospolis into two branches, called Busiriticus, from the city of Busiris, which stood on its left, or west branch. It is the second branch of the Nile, reckoning from the east.

BUSITIS, in ancient geography, a district of Arabia Deserta; the country of Elilu; so called from Buz, Nahor's second son. It is called Buzites by the Septuagint.

BUSK, } Now written bush. See BOSKE.

BUSKET, } Basket, the diminutive of busk.

For there is neither *buske* nor hay

In Mey, that it nil shrouded bene

And with the new leues wrene.

Chaucer's Romaunt of the Rose, fol. 116.

Youngthes folke now flocken in every where,

To gather May-bushets and smelling brece.

Spenser's Shepheard's Calender.

BUSK, v. & n. } Fr. *buis*, *buisque*; thus the
BUSKET, } noun is applied to a slip
BUSKY, } of boxwood, or of any thing

else that is a strengthener for women's stays.

—The verb is derived differently and applied differently. Dr. Jamieson thinks it is from the German, *butzen*, *bussen*, to decorate and ornament. A well-dressed woman is *butz frauw*. *Busk* is so termed, perhaps, because it adds to the grace of the person; and the verb may be applied to the general preparation and making ready, in which ladies are so very nice and particular, before they appear in company. Thus, in the song, as quoted below, '*busk ye*,' is make ready, prepare 'my bonny, bonny bride.' It is sometimes used in the sense of repair to; to go; to direct one's steps. It is, however, as a verb nearly obsolete, and modern fashion is getting rid of the noun. *Busks* were only known to our grandmothers: the substitutes are lighter and more elegant.

Busk ye, then *busk*, my bonny, bonny bride;

Busk ye, busk ye, my winsome marrow;

Busk ye, and luvè me on the banks of Tweed,

And think nae mair on the braes of Yarrow.

W. Hamilton.

Her long slit sleeves, stiffe *buske*, puffe verdingall,
Is all that makes her thus angelical.

Marston. Scourge 11.

Ye might haue *busked* you to huntly banks,

Your pryde was pevysh to play such pranks.

Skellon's Ware the Hawke.

The commons renyed their taxes to pay

Of them demaunded and asked by the kynge

With one voice importune they plainly sayd uay,

They *buskt* them on a *bushment* themselfe in baile
to bring, *Id.* p. 306.

No fowler that had wylie witte
But will forcee such hap,
That birds will alway *buske* and bate
And 'scape the fowlers trap.
Turberville. Of the diuers Passions, &c.

BUSK, a town in Austrian Galicia, situated on the Bug, which here first becomes navigable. It contains three Greek churches, and one Roman Catholic, and there is here a large tannery. In the neighbourhood are iron works, and the lakes afford good fishing. Twenty-five miles E. N. E. of Lemberg, and fifty north of Halicz.

BUSKIN, } Ital. *borzachino*; Fr. *brodequin*,
BUSKINED, } from Lat. *pero*. Some derive it from the Greek *βυσσα*, a hide or skin; a kind of half boot; a shoe which comes to the mid leg. It is now confined to the stage, and is chiefly characteristic of tragedy.

She, having hong upon a bough on high
Her bow and pointed quiver, had unlaste
Her silver *buskins* from her nimble thigh. *Spenser.*

The foot was dressed in a short pair of velvet *buskins*; in some places open, to shew the fairness of the skin. *Sidney.*

Or what, though rare, of later age,
Ennobled hath the *buskined* stage? *Milton.*

There is a kind of rusticity in all those pompous verses; somewhat of a holiday shepherd strutting in his country *buskins*. *Dryden.*

Here, armed with silver bows, in early dawn,
Her *buskined* virgins traced the dewy lawn. *Pope.*

But, O! how altered was its sprightlier tone,
When Cheerfulness, a nymph of healthiest hue,
(Her bow across her shoulder slung,
Her *buskins* gemmed with morning dew),
Blew an inspiring air, that dale and thicket rung.

Collins' Ode. The Passions.

BUSKINS anciently were adapted to either foot, and worn by either sex. This part of dress, covering both the foot and mid leg, was tied below the knee; it was very rich, and principally used on the stage by actors in tragedy. It was of a quadrangular form; and the sole was so thick, that by means thereof, men of ordinary stature might be raised to the elevation of the heroes they personated. The color was generally purple on the stage; herein it was distinguished from the sock worn in comedy, that being only a low common shoe. The buskin seems to have been worn not only by actors but by girls, to raise their height; travellers and hunters also made use of it to defend themselves from the mire. In classic authors, we frequently find the buskin used for tragedy itself, as it was a mark of tragedy on the stage. It was also to be understood for a lofty strain or high style.

BUSS, *v. & n.* Per. *bosu*, from *boos*, *poos*, the lips; Lat. *basium*; Fr. *baiser*; Ital. *bacio*, Span. *buz*, which approaches nearest to the English, but all these may have the same root with kiss, by the frequent intermutation of *k* and *p*. A kiss; to kiss; to salute with the lips.

Yonder walls, that partly front your town,
Yond towers, whose wanton tops do *buss* the clouds,
Must kiss their feet. *Shakspeare.*

Go to them with this bonnet in thy hand,
Thy knee *bussing* the stones; for in such business,
Action is eloquence. *Id.*

Thou dost give me flattering *busses*.—By my troth,
I kiss thee with a most constant heart. *Id.*

Sweete *busses* not sharpe battels, then,
Did alter inan and minde:
Till he, as others, sorrow in
Securitie did finde. *Warner.*
And we by sigas sent many a secret *buss*.

Dragon's Barons' War
Kissing and *bussing* differ both in this,
We *buss* our wantons, but our wives we kiss.

Herrick.

BUSS. Goth. *busa*; Swed. *buz*; Bel. *buis*; Teut. *busse*; a fishing boat, made like a box, with wide hull and broad prow.

Herfor kyng Richard wrathes him & sais,
'Dight vs þider ward our *busses* & galais,
Mi sister I wille out wyn or I ferrer go.'

R. Brune, p. 149.

BUSS. Used only in composition, as in *blunderbuss*, but common in all Gothic dialects, as *bos*, *bus*, *busche*, a barrel, a tube, supposed to be from Lat. *buxus*.

BESS, is a small vessel, used by the English and Dutch in the herring fishery, commonly from forty-eight to sixty tons burden, and sometimes more: a buss has two small sheds or cabins, one at the prow and the other at the stern; that at the prow serves for a kitchen. Every buss has a master, an assistant, a mate, and seamen in proportion to the size of the vessel; the master commands in chief, and without his express orders the nets cannot be cast nor taken up; the assistant has the command after him; and the mate next, whose business is to see the seamen manage their rigging in a proper manner, to mind those who draw in their nets, and those who kill, gut, and cure the herrings, as they are taken out of the sea: the seamen generally engage for a whole voyage in the lump. The provision which they take on board the busses, consists commonly in biscuit, oat meal, and dried or salt fish; the crew being content for the rest with what fresh fish they catch. See **FISHERIES**.

BUSSA, a large sort of vessel of war, in use in the middle age, spoken of by antiquaries and historians under the denomination of *bussa*, *bucia*, *barcia*, *buza*, *bucea*, and *bucia*.

BUSSARA, or **BASSORA**. See **BASSORA**.

BUSSELLUS. See **BUSHEL**.

BUSSORES, from *Bassora*, whence they were originally brought, a name given by some to that species of pigeon called the carrier.

BUSSULUS. See **BUSHEL**.

BUSSY (Roger Rabutin), count of. See **RABUTIN**.

BUST. Ital. *busto*; Fr. *buste*; Lat. *bustum*, *ustum*, from *uro*, *burno*, to burn. It signifies a half statue usually placed over the ashes of the dead. It retains the name, though the custom in which it originated, in Christian nations, has been long obsolete.

Agrippa, or Caligula, is a common coin, but a very extraordinary *bust*; and a Tiberius a rare coin, but a common *bust*. *Addison on Italy.*

Ambition sighed: she found it vain to trust
The faithless column, and the crumbling *bust*. *Pope*

This night, no *bust* or picture claims your praise;
Our claim's superior—we his spirit raise!
Garrick's Prologue.

What though no marble-piled *bust*
 Adorn his desolated dust,
 With speaking sculpture wrought!
 Pity shall woo the weeping Nine
 To build a visionary shrine,
 Hung with unfading flowers, from fairy regions
 brought. *Warton.*

Stop!—for thy tread is on an empire's dust!

An earthquake's spoil is sepulchred below!

Is the spot marked with no colossal *bust*?

Nor column trophied for triumphal show?

None: but the moral's truth tells simpler so;

As the ground was before, thus let it be;—

How that red rain hath made the harvest grow.

Byron's Child Harold.

BUST, or **BUSTO**, in sculpture, denotes the figure or portrait of a person in relieve, showing only the head, shoulders, and stomach, the arms being lopped off; ordinarily placed on a pedestal or console. In speaking of an antique, we say the head is marble, and the bust porphyry, or bronze, that is, the stomach and shoulders. Felibien observes, that though, in painting, one may say a figure appears in busto, yet it is not properly called a bust, that word being confined to things in relieve. The bust is the same with what the Latins called *Herma*, from the Greek *Hermes*, Mercury, the image of that god being frequently represented in this manner among the Athenians. Bust is also used, especially by the Italians, for the trunk of a human body, from the neck to the hips.

BUSTA GALLICA, was a place in ancient Rome wherein the bones of the Gauls, who first took the city, and were slain by Camillus, were deposited. It differed from

BUSTA GALLORUM, a place on the Appennines, so called from many thousands of Gauls being killed there by Fabius.

BUSTARD, a bird resembling a turkey. Barb. Lat. and Ital. *tarda*, *avis*, *tarda*; Ital. *avattarda*; Fr. *outarde*; the Lat. *turda* does not apply to this bird, unless in the sense of late in taking wing.

His sacrifices were phenicopters, peacocks, *bustards*, turkeys, pheasants; and all these were daily offered.

Hakevill.

BUSTARD, in ornithology. See **OTIS**.

BUSTARD BAY, a bay on the east coast of New Holland, where ships may lie in safety, and obtain fresh water. Lat. 24° 4' S., long. 208° 18'.

BUSTARIE MOECHÆ, in antiquity, according to some, women that were hired to accompany the funeral and lament the loss of the deceased: but others are of opinion, that they were rather common prostitutes, who stood among the tombs, graves, and other such lonely places.

BUSTLE, *v.* & *n.* } Frequentative of busy;
BUSTLER, } to hurry; to stir; to have
BUSTLINGS. } much to do; to be active;
 to be in tumult or confusion.

At length within the yvie toddle,
 (There shrouded was the little god),

I heard a busie *bustling*.

Spenser's Shepheard's Calendar.

Come, *bustle*, *bustle*—caparison my horse.

Shakespeare.

God take king Edward to his mercy,
 And leave the world for me to *bustle* in.

Id.

Wisdom's self,

Of seeks to sweet retired solitude:

She plumes her feathers, and lets grow her wings,
 That in the various *bustle* of resort

Were all too ruffled.

Milton.

Engaged his legions in fierce *bustles*

With perriwinkles, prawns, and muscles;

And led his troops with furious gallops,

To charge whole regiments of scallops.

Butler's Hudibras.

Sir Henry Vane was a busy and *bustling* man, who had credit enough to do his business in all places.

Clarendon.

A poor abject worm,

That crawled awhile upon a *bustling* world,

And now am trampled to my dust again.

Southerne.

BUSTUARI, in Roman antiquity, gladiators who fought about the bustum or funeral pile of a person of distinction, that the blood which was spilt, might serve as a sacrifice to the infernal gods, and render them more propitious to the manes of the deceased. This custom was introduced in the room of the more inhuman one of sacrificing captives at the bustum, or on the tombs of warriors.

BUSTUM, in antiquity, denotes a pyramid or pile of wood, whereon were anciently placed the bodies of the deceased, in order to be burnt. The Romans borrowed from the Greeks the custom of burning their dead. The deceased, crowned with flowers, and dressed in his richest habits, was laid on the bustum. Some authors say, it was only called bustum, after the burning, quasi bene ustum: before the burning it was more properly called *pyra*; during it *rogus*; and afterwards bustum. When the body was only burnt there, and buried elsewhere, the place was not properly called bustum, but *ustrina*, or *ustrinum*. Bustum was also figuratively applied to denote any tomb. Whence those phrases, *facere bustum*, *violare bustum*, &c.

BUSTUM, in the Campus Martius, was a structure whereon the emperor Augustus first, and after him the bodies of his successors, were burnt. It was built of white stone, surrounded with an iron palisade, and planted withinside with alder trees.

BU'SY, *v.* & *adj.* } Sax. *bysig*; Bel. *bizig*;
BU'SILESS, } from Goth. *bu*, to arrange;
BU'SILY, } to prepare; employed;
BU'SINESS, } active; officious; med-
BU'SY BODY. } dling; industrious; trouble-
 some; vexatiously intrusive and importunate;
 a busy-body is a vain, meddling, fantastical person.

Full *busy* was Grisilde in every thing,

That to the feste was appertinent;

Right naught was she abaist of hire clothing,

Though it were rude, and somdele, eke to-rent;

But with glad chere to the yate is went,

With other folk to grete the markisse;

And after that doeth forth hire *besinesse*.

Chaucer's Canterbury Tales.

He in great passion all this while did dwell,

More *busy*ing his quick eyes her face to view,

Than his dull ears to hear what she did tell.

Faerie Queene.

Must *business* thee from hence remove?

Oh! that's the worst disease of love. *Donne.*

Bestow

Your needful counsel to our *businesses*,
Which crave the instant use. *Shakespeare.*

The sweet thoughts do even refresh my labour,
Most *business* when I do it. *Id.*

After seventy years (as the Psalmist says), all is trouble and sorrow; and common experience confirms the truth of it in weak and old persons, especially in such as have lived in action all their lives, had great employments, much *business*, much command, and many servants to oversee and leave off ex abrupto; as Charles the Fifth did, to king Philip, resign up all on a sudden.

Burton's Anatomy of Melancholy.

Busybodies and intermeddlers are a dangerous sort of people to have to do withal. *L'Estrange.*

Affected despatch is one of the most dangerous things to *business* that can be. *Bacon.*

The coming spring would first appear,
And all this place with roses strow,
If *busy* feet would let them grow. *Waller.*

The grand *business* of our Saviour, and his apostles after him, was to teach, and that chiefly in order to persuade. *South's Sermons.*

At two afternoon for our Psyche inquire,
Her tea-kettle's on, and her smock at the fire;
So loitering, so active, so *busy*, so idle,
Which hath she most need of, a spur or a bridle? *Swift.*

She is well acquainted with all the favourite servants, *busybodies*, dependants, and poor relations, of all persons of condition in the whole town. *Spectator.*

Rumours strange,
And of unholy nature, are abroad,
And *busy* with thy name. *Byron's Manfred.*

BUT. Per. *budur*; Sax. *bute*; Swed. *but*, *utan*, *butan*; Bel. *buitan*, from Goth. *ut*, *be ut*, or *be out*. We shall insert all the various shades of application in which it is used, in the order preserved by Dr. Johnson. Each definition, and its appropriate illustration, will thus stand separate.

Except.

An emission of immateriate virtues we are little doubtful to propound, it is so prodigious: *but* that it is so constantly avouched by many. *Bacon.*

Who can it be, ye gods! *but* perjured Lycon?
Who can inspire such storms of rage, *but* Lycon?
Where has my sword left one so black, *but* Lycon? *Smith.*

Except that; unless; had it not been that: in this sense we now write *but* that. See sense 11.

And *but* infirmity,
Which waits upon worn times, hath something seized
His wished ability, he had himself
The lands and waters measured. *Shakespeare.*

Yet; nevertheless. It sometimes only enforces *yet*.

Then let him speak, and any that shall stand without shall hear his voice plainly; *but yet* made extreme sharp and exile, like the voice of puppets: and yet the articulate sounds of the words will not be confounded. *Bacon.*

Our wants are many, and grievous to be borne, *but* quite of another kind. *Swift.*

The particle which introduces the minor of a syllogism; now.

God will one time or another make a difference between the good and the evil. *But* there is little or

no difference made in this world; therefore there must be another world, wherein this difference shall be made. *Watts's Logic.*

Only; nothing more than.

If my offence be of such mortal kind,
That not my service past, or present sorrows,
Can ransom me into his love again;
But to know so, must be my benefit. *Shakespeare.*

Prepared I stand: he was *but* born to try
The lot of man, to suffer and to die. *Pope.*

Though on his brow were graven lines austere
And tranquil sternness, which had taken place
Of feelings fiercer far *but* less severe;
Joy was not always absent from his face,
But o'er it in such scenes would steal with transient trace. *Byron's Childe Harold.*

Than.

The full moon was no sooner up and shining in all its brightness, *but* he opened the gate of Paradise. *Guardian.*

But that; without this consequence that.

Frosts that constrain the ground
Do seldom their usurping power withdraw,
But raging floods pursue their hasty hand. *Dryden.*

Otherwise than that.

It cannot be *but* nature hath some director, of infinite power, to guide her in all her ways. *Hooker.*

Who shall believe,
But you misuse the reverence of your place? *Shakespeare.*

Not more than; even.

A genius so elevated and unconfined as Mr. Cowley's, was *but* necessary to make Pindar speak English. *Dryden.*

It is evident, in the instance I gave *but* now, the consciousness went along. *Locke.*

By any other means than.

Out of that will I cause those of Cyprus to mutiny: whose qualifications shall come into no true taste again, *but* by transplanting of Cassio. *Shakespeare.*

If it were not for this; that; if it were not that. Obsolete.

I here do give thee that with all my heart,
Which, *but* thou hast already, with all my heart
I would keep from thee. *Shakespeare.*

However; howbeit; a word of indeterminate connexion.

I do not doubt but I have been to blame;
But, to pursue the end for which I came,
Unite your subjects first, then let us go
And pour their common rage upon the foe. *Dryden.*

It is used after *no doubt*, *no question*, and such words, and signifies the same with *that*. It sometimes is joined with *that*.

They made no account, *but that* the navy should be absolutely master of the seas. *Bacon.*

That. This seems no proper sense in this place.

It is not therefore impossible *but* I may alter the complexion of my play, to restore myself into the good graces of my fair critics. *Dryden.*

Otherwise than. Obsolete.
I should sin

To think *but* nobly of my grandmother. *Shakespeare.*

A particle by which the meaning of the foregoing sentence is bounded or restrained; only.

Thus fights Ulysses, thus his fame extends.
A formidable man, *but* to his friends. *Dryden.*

A particle of objection; yet it may be objected: it has sometimes *yet* with it.

But yet, Madam —

I do not like *but yet*; it does allay

The good precedence; fie upon *but yet*!

But yet is as a jaylour, to bring forth
Some monstrous malefactor. *Shakspeare.*

But for; without; had not this been.

Rash man, forbear! *but for* some unbelief,

My joy had been as fatal as my grief. *Waller.*

When the fair boy received the gift of right,

And, *but for* mischief, you had died for spite.

Dryden.

BUT', *n. s.* Fr. *bout*, a boundary.

But, if I ask you what I mean by that word, you will answer, I mean this or that thing, you cannot tell which; but if I join it with the words in construction and sense, as, *but* I will not, a *but* of wine, *but* and boundary, the ram will *but*, shoot at *but*, the meaning of it will be as ready to you as any other word. *Holder.*

BUT', *n. s.* In sea language, the end of any plank which joins to another on the outside of a ship, under water.

BUT' Thick, round, large. Goth. *bult*; Teut. *bult*; Swed. *bult*; Bel. *bot*. It seems to mean *be out*, extending; and was applied to denote several kinds of flat fish; Bel. *bot*, a flounder.

BUT-END, *n. s.* From *but* and *end*; the blunt end of any thing; the end upon which it rests.

The reserve of foot galled their foot with several volleys, and then fell on them with the *but-ends* of their muskets. *Clarendon.*

Some of the soldiers accordingly pushed them forwards, with the *but-ends* of their pikes, into my reach. *Swift.*

BUTCHER, *v. & n.*

BUTCHERING,

BUTCHERLINESS,

BUTCHERLY,

BUTCHERY.

Barb. Lat. *bucador*,
from Lat. *boves cadere*,
was an ox killer; Fr.
boucher; but Ital. *bec-*
caro seems to be from

becco, a goat, the flesh of which was probably most common in ancient times. A butcher now is one who kills animals to sell; the verb, and sometimes the noun, is used in a far greater latitude of application. A butcher is one that is delighted with blood: to butcher is to kill, to murder; the adjective expresses bloody, gross, clumsily, barbarous, brutal, cruel, savage.

The lamb thinks not the *butcher's* knife

Should then bereave him of his life.

Earl of Surrey.

Teaching stern murder how to *butcher* thee.

Shakspeare.

Uncharitably with me have you dealt,

And shamefully by you my hopes are *butchered*. *Id.*

There is no place, this house is but a *butchery*;

Abhor it, fear it, do not enter it. *Id.*

There is a way which, brought into schools, would take away this *butcherly* fear in making of Latin.

Ascham.

The shepherd and the *butcher* both may look upon one sheep with pleasing conceits. *Sidney.*

Brentford fair,

Where sturdy *butchers* broke your noodle,

And handled you like a fop-doodle. *Hudibras.*

Can he a son to soft remorse incite,

Whom gaols, and blood, and *butchery* delight.

Dryden.

The poison and the dagger are at hand to *butcher* a hero, when the poet wants brains to save him. *Id.*

Hence he learnt the *butcher's* guile.

How to cut your throat and smile;

Like a *butcher*, doomed for life

In his mouth to wear his knife.

Swift.

Yet this man, so ignorant in modern *butchery*, has cut up half an hundred heroes, and quartered five or six miserable lovers, in every tragedy he has written.

Pope.

His eyes

Were with his heart, and that was far away;

He recked not of the life he lost, nor prize,

But where his rude hut by the Danube lay,

There were his young barbarians all at play;

There was their Dacian mother—he, their sire,

Butchered to make a Roman holiday—

All this rushed with his blood.

Byron's Child Harold.

BUTCHERS, in antiquity. Among the ancient Romans there were three kinds of established butchers, whose office it was to furnish the city with the necessary cattle, and to take care of preparing and vending their flesh. The suarii provided hogs; the pecuarii, or boarii, other cattle, especially oxen; and under these was a subordinate class, whose office was to kill, called lanii and carnifices. Two classes of butchers are recognised in London; carcase butchers, who slaughter animals in great numbers, and dispose of them to the retail butchers, who are dispersed in different places for the supply of their customers.

To exercise the office of butcher among the Jews with dexterity is difficult. So particular are they in this, that the stricter Jews will buy meat of none of the London butchers, unless he have a licence from the rabbis, and keep a Jew slaughterer. This person performs his work in a peculiar manner: he never knocks down a bullock, as is the usual custom, but invariably cuts the throat of every animal, the sheep or ox being placed on its back, with the legs tied and the head held back. He never makes but one cut, and if by any accident this should fail to kill the animal, or he should break or notch his knife in the attempt, he would pronounce the animal unfit for the food of his people. He is also the first to examine the intestines and lungs, and should they be found in the least degree injured, or diseased, he would refuse the animal. Should he be sound, and the stroke succeed, as is generally the case, he proceeds to mark the bones of each separate joint with Hebrew characters, which are to the Jews the sign that the meat is clean and fit for food, and also convey the date when it was killed.

Butchers not selling meat at reasonable prices shall forfeit double the value, leviable by two justices of the peace. No butcher shall kill any flesh in his scalding-house, or within the walls of London, on pain to forfeit for every ox so killed 12*d.* and for every other beast 8*d.* to be divided between the king and the prosecutor.

The Butcher's Company, though very ancient, was not incorporated till the reign of James I. Their arms are, *azure*, two axes saltier-wise, *argent*, between three bulls' heads couped, attired, *or*; a boar's head, *gules*, betwixt two garbs, *vert*.



BUTCHER-BIRD. See LANIUS.

BUTE, an island lying to the west of Scotland, being separated from Cowal, in Argyleshire, only by a narrow channel. It is about sixteen miles in length; the broadest part from east to west is about five miles. Part of it is rocky and barren; but, from the middle southwards, the ground is cultivated, and produces peas, oats, and barley. Here is a quarry of red stone, which the natives have used in building a fort and chapel in the neighbourhood of Rothsay, which is a very ancient royal borough, head town of the shire of Bute and Arran; but very thinly peopled, and maintained chiefly by the herring fishery. On the north side of Rothsay are the ruins of an ancient castle, formerly belonging to the kings of Scotland. It has likewise the remains of some Danish towers. The natives are healthy and industrious, speak the Erse and the dialect of the Lowlands indifferently, and profess the Protestant religion. The island is divided into two parishes, Rothsay and Kingcastle, accommodated with four churches. It was from very early times part of the patrimony of the Stuarts: large possessions in it were granted to Sir John Stuart son of Robert II. by his beloved mistress Elizabeth More; and it has continued in that line to the present time. Bute gives title of marquis to a branch of the family of Stuart, and Rothsay that of duke to the heir apparent of the British throne. Mount-Stuart, a seat of lord Bute, and from which he takes his second title, is an elegant house, having a fine view of the Frith of Clyde. Rothsay has of late become a fashionable watering-place.

BUTE, a shire of Scotland, comprehending the island, with those of Arran, the two Cumbrays, and Inchmarnock. This county and that of Caithness send a member to parliament alternately. The earl of Bute is admiral of the county, by commission from his majesty; and no way dependent on the lord high admiral of Scotland; so that if any maritime case occurs within his jurisdiction (even crimes of as high a nature as murder, or piracy,) he is judge, by virtue of his powers as admiral, or he may delegate his authority to any deputies.

BUTE (John), earl of. See STEWART.

BUTEA, in botany, a genus of plants of the class diadelphia, order decandria: essential characters, CAL. sub-bilabiate: COR. standard conlaunceolate; legume compressed, with one seed at the summit. There are two species, viz. *B. frondosa*, an evergreen tree, growing on the coast of Malabar to the height of fifteen feet. From this tree, according to Jussieu, the gum lac is procured. See GUM LAC. An infusion of the flowers dye cotton cloth, previously impregnated with alum, of a bright yellow. 2 *B. superba*, a native of the coast of Coromandel.

BUTEO, in ornithology, a species of falco, the common buzzard of Latham. The cere and legs of this bird are yellow; the body brown, and the belly pale, with brown spots. This species is rather larger than a kite in the body.

BUTEONIS, in zoology, a species of echinorhynchus, color clear white; the vesicles of the tail bluish and lentiform. Also a species of ascaris, and another of cucullanus. These three

are found in the intestines of the common buzzard.

BUTHYSIA, *βουτυσία*, in antiquity, a sacrifice of the greatest kind; such were the hecatombs. See SACRIFICE and HECATOMB. The Greeks frequently prefixed the particle *βυ* to words, to denote things of extraordinary magnitude, as alluding to the bigness of oxen.

BUTLER, *n.* } Teut. *buteler*, from *ben-*
BUTLERAGE, *n.* } *ten*; Swed. *byla*, to buy;
BUTLERSHIP, } *beutel*, a purse, signified a
BUTLERY, } pursuer. Its general appli-
BUTLERESS. } cation is a house steward,
but Fr. *boutiller*, is one who has the charge of the bottles or cellar.

These ordinary finances are casual or uncertain, as be the escheats, the customs, *butlerage*, and impost.

Bacon.

Butlers forget to bring up their beer time enough.

Swift.

It seems my entertainer was all this while only the *butler*, who, in his master's absence, had a mind to cut a figure, and to be for a while the gentleman himself, and to say the truth, he talked politics as well as most country gentlemen do.

Goldsmith. The Vicar of Wakefield, ch. xix.

Prizage, by charter of Edward I. was exchanged into a duty of 2s. for every ton imported by merchant strangers, and called *butlerage*, because paid to the king's *butler*. *Blackstone. Commentaries*, b. i. c. viii.

BUTLER (Charles), was master of the grammar school at Basingstoke, and a native of Wycombe, in Bucks, and M. A. of Magdalen College, Oxford, presented in 1600 to the vicarage of Lawrence Wotton, in Hampshire, where he died in 1647. His works are—1. *The Feminine Monarchy*, or a Treatise on Bees, 1609, 8vo.; 1623, 8vo.; and 4to. 1634 (quoted by Dr. Johnson in his Dictionary). 2. *Rhetoricæ*, lib. duo, 1618. 3. *De Propinquitate Matrimonium impediens regula generalis*, 4to. 4. *Oratoriæ*, lib. duo, 4to. 5. *English Grammar*, 4to. 6. *The Principles of Music*, 4to. The last work is highly praised by Dr. Burney.

BUTLER (Joseph), bishop of Durham, a prelate distinguished by his piety and learning, was the youngest son of Mr. Thomas Butler, a reputable shopkeeper at Wantage, in Berkshire, where he was born in 1692. His father, who was a presbyterian, observing that he had a strong inclination to learning, sent him to an academy in Gloucestershire, to qualify him for a dissenting minister; and while there he wrote some remarks on Dr. Clarke's first sermon at Boyle's lecture. Afterwards, resolving to conform to the established church, he studied at Oriel College, where he contracted an intimate friendship with Mr. Edward Talbot, brother to the chancellor, which laid the foundation of his subsequent advancement. He was first appointed preacher at the Rolls, and rector of Haughton and Stanhope, two rich benefices in the bishopric of Durham. He quitted the Rolls in 1726; and published in 8vo. a volume of sermons, preached at that chapel. After this he constantly resided at Stanhope, in the regular discharge of the duties of his office, till 1733, when he was called to attend lord chancellor Talbot as his chaplain, who gave him a prebend in the church of Rochester. In 1736 he was appointed clerk of the

closet to queen Caroline, whom he attended every day, from seven to nine in the evening. In 1738 he was appointed bishop of Bristol; and not long afterwards dean of St. Paul's. He now resigned his living of Stanhope. In 1746 he was made clerk of the closet to the king; and in 1750 was translated to Durham. This rich preferment he enjoyed but a short time; for he died at Bath, June 16th, 1752, and was interred in the cathedral of Bristol, where there is a monument to his memory. He died a bachelor. His deep learning and comprehensive mind appear sufficiently in his writings; particularly in his noble work, *The Analogy of Religion, Natural and Revealed, to the Constitution and Course of Nature*, first published in 8vo, 1736.

BUTLER (Samuel), a celebrated poet of the seventeenth century, was the son of a reputable Worcestershire farmer, and born in 1612. He passed some time at Cambridge, but was never matriculated. Returning to his native country, he lived some years as a clerk to a justice of peace; devoting his leisure to the fine arts. Being recommended to Elizabeth countess of Kent, he enjoyed in her house, not only the use of all kinds of books, but the conversation of the great Mr. Selden, who often employed Butler to write letters, and translate for him. He also lived some time with Sir Samuel Luke, a gentleman of an ancient family in Bedfordshire, and a commander under Cromwell. Here he is supposed to have planned his celebrated *Hudibras*; and under that character to have ridiculed the old knight. Thus, *Hudibras* in the first canto says—

'Tis sung, there is a valiant mamaluke
In foreign land yelep'd — — —
To whom we oft have been compared
For person, parts, address, and beard.

After the Restoration, Mr. Butler was made secretary to the earl of Carbury, lord president of Wales, who appointed him steward of Ludlow castle, when the court was revived there. At this time he married a Mrs. Herbert, a lady of good family and some fortune, which he soon expended. The earl of Dorset brought his celebrated poem into notice at court, and he had promises of a place from Clarendon, but they were never accomplished. He died in 1680, disappointed and poor, but without debt. Charles II. is said often to have quoted *Hudibras* in his conversation: and, as Dr. Johnson says, it can perish only with the language. But of late years it has experienced a good deal of the fate of the author through life; it has been neglected: its topics are less familiar to the public, and its language more so. Grainger calls it as great an effort in its kind, as *Paradise Lost*.

BUTLER (James), duke of Ormond, a celebrated statesman in the reigns of Charles I. and II., was the son of Thomas Butler, of London, and born at Newcastle-house, in Clerkenwell, in 1610. He succeeded to the earldom of Ormond on the death of his grandfather, Walter Butler, in 1632. In 1641, at the breaking out of the Irish rebellion, he was appointed lieutenant-general of an army of 3,000 men, and succeeded in arresting the progress of the insurgents, a ser-

vice for which he was created a marquiss. In 1643 he defeated the rebels under Preston; and was shortly after appointed lord-lieutenant of Ireland. When the royal cause was altogether ruined, he went to France; but after the death of Charles I. returned to Ireland. Here, however, his efforts to rouse the people were at this time unavailing; and when Cromwell landed, the marquiss re-embarked for France. At the Restoration he was raised to an Irish dukedom, and appointed lord-lieutenant of Ireland; but, for his attachment to lord Clarendon, incurred the displeasure of the court, and was deprived of his office. In 1670 the infamous colonel Blood, whom he had imprisoned in Ireland, attempted to seize his person, and hang him at Tyburn. He was for this purpose actually taken out of his carriage, gagged, and placed behind a powerful horseman; but the duke, by his personal exertions, threw himself and the villain off the horse, and obtained assistance. At the desire of the king, he afterwards consented to forgive Blood, saying, 'that if his majesty could pardon him for attempting to steal the crown, he might easily do so for an attempt upon his life.' He was at length again appointed to the vice-royalty of Ireland, and in 1682 advanced to an English dukedom. He died at Kingston-hall, in Dorsetshire, in 1688, and was buried in Westminster-abbey.

BUTLER (Thomas), earl of Ossory, son of the above, was born in Kilkenny in 1634. He behaved nobly in the rebellion, and in 1666 was summoned to the house of peers by the title of lord Butler, of Moore Park. He bore a gallant part in the great engagement with the Dutch fleet, and in 1673 was made full admiral. In 1677 he commanded the English troops in the service of the prince of Orange, at the battle of Mons, and died in 1680, when his father said, that 'he would not exchange his dead son for any living son in Christendom.'

BUTLER was the name anciently given to an officer in the court of France, similar to that of the *ci-devant grand echanson*, or great cup-bearer; which was abolished with the other appendages of royalty.

BUTLERS, buticulari, among the Normans, denote wine-tasters, appointed to examine liquors, and see that they be right and legal.

BUTLERAGE is a duty of 2s. for every ton of wine imported by merchants strangers; being a composition in lieu of the liberties and freedoms granted to them by king John and Edward I., by a charter called *charta mercatoria*. Butlerage was originally the only custom that was payable upon the importation of wines, and was taken by virtue of the regal prerogative for the proper use of the crown. But for many years past, parliament having granted subsidies to the kings of England, and the duty of butlerage not repealed, but confirmed, they have granted it away to some nobleman, who, by virtue of such grant, is to enjoy the full benefit thereof, and may cause it to be collected in the same manner that the kings themselves were formerly wont to do.

BUTMENTS of arches are the same with buttresses. They answer to what the Romans called *sublicas*; the French *culées* and *butees*

BUTMENTS, or abutments, of a bridge, denote the two massives at the end of a bridge, whereby the two extreme arches are sustained and joined with the shore on either side.

BUTOMUS, the flowering rush, or water gladiolus; a genus of the hexagynia order, and enneandria class of plants; natural order fifth, tripetaloideæ: CAL. none; petals six, and as many monospermous capsules. There is but one species, viz. *B. umbellatus*; of which there are two varieties, the one with a white, the other with a rose-colored, flower.

BUTRINTO, a port town of Epirus, in Turkey in Europe, situated opposite to the island of Corfu, at the entrance of the gulph of Venice. Thirty miles south of Chimera.

BUTT, *v. & n.* Teut. *butten*, to push out; but Swed. *bocka*, is from Goth. *bocka*, to strike like a buck goat; thus it signifies to push, to thrust, to strike with the head. Thus the noun is from *botta*; Ital. and Fr. *botte*; which means a stroke or thrust in fencing. Thus likewise the mark for archers is now called a butt; and a person on whom others break their jests, or thrust the darts of their wit, is called a butt; so is likewise any object against which an attack is directed.

Be not afraid though you do see me weaponed;
Here is my journey's end, here is my butt,
The very sea-mark of my journey's end. *Shakspeare.*

The papists were the most common-place, and the butt against whom all the arrows were directed.

Clarendon.

'Virtue, and social love,' he said,
And honour from the land were fled,
The patriots now, like other folks,
Were made the butt of vulgar jokes.'

E. Moore. The Trial of Selim.

Nor wars are seen,
Unless upon the green,

Two harmless lambs are butting one the other.

Wotton.

A snow-white steer, before thy altar led,
Butts with his threatening bows, and bellowing stands.

Dryden's Æneid.

A ram will butt with his head though he be brought up tame, and never saw that manner of fighting. *Ray.*
I played a sentence or two at my butt, which I thought very smart, when my ill genius suggested to him such a reply as got all the laughter on his side.

Spectator.

And idly butting feigns

His rival gored in every knotty trunk. *Thomson.*

BUTT, *n. s.* Sax. *buttr*. A vessel; a barrel containing one hundred and twenty-six gallons of wine; a butt contains one hundred and eight gallons of beer; and from fifteen to twenty-two hundred weight is a butt of currants.

I escaped upon a butt of sack, which the sailors heaved overboard. *Shakspeare.*

BUTTER, *v. & n.* *Бѣтѣровъ*; Lat. *butyrum*; Sax. *buttere*; Bel. *botter*; Teut. *butter*. An oily substance procured from milk, properly of cows. To butter is to spread this substance over any thing, to make it palatable as food; or to lubricate and soften what is dry and hard. To but-

ter is metaphorically used to express flattery, on account of its softness and insinuating character. Butterfly is so called because of its buttery softness, says Junius; because of its comparative magnitude among the different species of winged insects, say I. Butter signifies large; thus butterfly is large fly. Johnson says it is so called because it first appears in the beginning of the season for butter.

And he took butter and milk, and the calf which he had dressed, and set before them. *Genesis* xviii. 8.

And so befell, that as he cast his eye

Among the wortes on a *butterfly*,

He was ware of this fox that lay full low.

Chaucer's Canterbury Tales.

Amongst these leaves she made a *butterfly*,
With excellent device and wondrous slight,
Fluttering among the olives wantonly,
That seemed to live, so like it was in sight;
The velvet nap which on his wings doth lie,
The silken downe with which his backe is dight,
His broad outstretched hornes, his hayrie thies,
His glorious colours, and his glistering ciees.

Spenser's Muirpotmos.

With an old *buttery* hatch, worn quite off the hooks.
And an old kitchen that maintained half a dozen old cooks.

Old Song.

Tongue, I must put you into a *butterwoman's* mouth,
and buy myself another of Bajazet's mute, if you prattle me into these perils. *Shakspeare.*

'Twas her brother, that, in pure kindness to his horse, *battered* his hay. *Id.*

Tell old tales and laugh

At gilded *butterflies*; and hear poor rogues

Talk of court news, *Id.*

Go, sirrah, take them to the *buttery*,

And give them friendly welcome every one. *Id.*

Words *butter* no parsnips. *L'Estrange.*

That which seems to be a powder upon the wings of a *butterfly*, is an innumerable company of extreme small feathers, not to be discerned without a microscope. *Grew.*

Milk, and all that comes of milk, as *butter* and cheese, curds, &c. increase melancholy (they only excepted, which is most wholesome).

Burton's Anatomy of Melancholy.

Nothing more convertible into hot cholerick humours than its *buttery* parts. *Harvey.*

A young man, fallen into an ulcerous consumption, devoted himself to *buttermilk*, by which sole diet he recovered. *Id.*

A *butterprint*, in which were engraven figures of all sorts and sizes, applied to the lump of *butter*, left on it the figure. *Locke.*

Let weeds, instead of *butterflowers*, appear;

And meads, instead of daisies, hemlock bear. *Gay.*

And what's a *butterfly*? at best

He's but a caterpillar drest. *Id. Fables.*

On life's gay stage, one inch above the grave,

The proud run up and down in quest of eyes:

The sensual, in pursuit of something worse,

The grave of gold, the politic of power;

And all, of other *butterflies*, as vain.

Young's Night Thoughts.

BUTTER, in chemistry, is a name given to several preparations, on account of their consistency resembling that of butter; as butter of antimony, &c.

BUTTER.—Butter appears to have been long unknown to the ancient Greeks. Their poets make no mention of it, though they frequently speak of milk and cheese. The Romans used

butter no otherwise than as a medicine, never as food. The ancient Christians of Egypt burnt butter in their lamps instead of oil; and in the Roman churches, it was anciently allowed, during Christmas time, to burn butter instead of oil, on account of the great consumption of it otherwise.

Butter is the fat, oily, and inflammable part of the milk; a kind of oil is naturally distributed through all the substance of the milk in very small particles, which are interposed betwixt the caseous and serous parts, amongst which it is suspended by a slight adhesion, but without being dissolved. It is in the same state in which oil is in emulsions; hence the same whiteness of milk and emulsions; and hence, by rest, the oily parts separate from both these liquors to the surface, and form a cream. See EMULSION. When butter is in the state of cream, its proper oily parts are not yet sufficiently united together to form an homogeneous mass. They are still half separated by the interposition of a pretty large quantity of serous and caseous particles. The butter is completely formed by pressing out these heterogeneous parts by means of continued percussion. It then becomes a uniform mass.

Butter melts with a weak heat, and none of its principles are disengaged by the heat of boiling water, which proves that the oily part is of the nature of the fat, fixed, and mild oils obtained from many vegetable substances by expression. See OILS. The half fluid consistence of butter, as of most other concrete oily matters, is thought to be owing to a considerable quantity of acid united with the oily part; which acid is so well combined, that it is not perceptible while the butter is fresh and has undergone no change; but when it grows old, and undergoes some kind of fermentation, then the acid is disengaged more and more; and this is the cause that butter, like oils of the same kind, becomes rancid by age.

In making butter, when the cream has been churned, open the churn, and with both hands gather it well together, take it out of the butter-milk, and lay it into a very clean bowl, or earthen pan; and if the butter be designed to be used sweet, fill the pan with clear water, and work the butter in it to and fro, till it is brought to a firm consistence of itself, without any moisture. When this has been done, it must be scotched and sliced over with the point of a knife, every way, as thick as possible, in order to fetch out the smallest hair, mote, bit of rag, strainer, or any other thing that may have happened to fall into it. Then spread it thin in a bowl, and work it well together, with a proper quantity of salt, and make it up into dishes, pounds, half pounds, &c. The following directions concerning the making and management of butter, including the Epping method, are extracted from the third volume of the Bath Society Papers. In general it is to be observed, that the greater the quantity made from a few cows, the greater will be the farmer's profit; therefore he should never keep any but what are esteemed good milkers. A bad cow will be equally expensive in keeping. When good ones are obtained, a careful servant should be employed to milk them; as, through the neglect

and mismanagement of servants, it frequently happens that the best cows are spoiled. A farmer should himself often see that the cows are milked clean; for if any milk is suffered to remain in the udder, the cow will daily give less, till at length she will become dry before the proper time, and the next season will scarcely give milk sufficient to pay for keeping her. It sometimes happens that some of a cow's teats may be scratched or wounded so as to produce foul or corrupted milk; when this is the case, we should by no means mix it with the sweet milk, but give it to the pigs; and that which is conveyed to the dairy-house should remain in the pail till it is nearly cool, before it be strained, that is, if the weather be warm; but in frosty weather it should be immediately strained, and a small quantity of boiling water may be mixed with it, which will cause it to produce cream in abundance, and the more so if the pans or vats have a large surface. During the hot summer months, it is proper to rise with or before the sun, that the cream may be skimmed from the milk ere the dairy becomes warm; nor should the milk at that season stand longer in the vats, &c. than twenty-four hours, nor be skimmed in the evening till after sun-set. In winter, milk may remain unskimmed for thirty-six or forty-eight hours; the cream should be deposited in a deep pan, which should be kept during the summer in the coolest part of the dairy; or in a cool cellar where a free air is admitted, which is still better. Where people have not an opportunity of churning every other day, they should shift the cream daily into clean pans, which will keep it cool, but they should never fail to churn at least twice in the week in hot weather; and this work should be done in a morning before the sun appears, taking care to fix the churn where there is a great draught of air. If a pump churn be to be used, it may be plunged a foot deep into a tub of cold water, and should remain there during the whole time of churning, which will very much harden the butter. A strong rancid flavor will be given to butter, if we churn so near the fire as to heat the wood in winter. After the butter is churned, it should be immediately washed in many different waters till it is perfectly cleansed from the milk; but here it must be remarked, that a warm hand will soften it, and make it appear greasy, so that it will be impossible to obtain the best price for it. The cheesemongers use two pieces of wood for their butter; and if those who have a very hot hand were to have such, they might work the butter so as to make it more saleable. The Epping butter is made up into long rolls, weighing a pound each; in the county of Somerset they dish it in half pounds for sale; but if they forget to rub salt round the inside of the dish, it will be difficult to work it so as to make it appear handsome. Butter will require and endure more working in winter than in summer; but it is remarked, that no person whose hand is warm by nature makes good butter. Those who use a pump churn must endeavour to keep a regular stroke; nor should they admit any person to assist them, except they keep nearly the same stroke: for if they churn more slowly, the butter will in winter go back, as it is called; and if the stroke

be more quick and violent in the summer, it will cause a fermentation, by which means the butter will imbibe a very disagreeable flavor. Where people keep many cows, a barrel churn is to be preferred; but if this be not kept very clean, the bad effects will be discovered in the butter; nor must we forget to shift the situation of the churn when we use it, as the seasons alter, so as to fix it in a warm place in winter, and where there is a free air in summer. In many parts of this kingdom, they color their butter in winter, but this adds nothing to its goodness; and it rarely happens that the farmers in and near Epping use any color, but when they do it is very innocent. They procure some sound carrots, whose juice they express through a sieve, and mix with the cream when it enters the churn, which makes it appear like May butter; nor do they at any time use much salt, though a little is absolutely necessary.—As they make in that country very little cheese, so very little whey butter is made; nor indeed should any person make it, except for present use, as it will not keep more than two days; and the whey will turn to better account to fatten pigs with. The foregoing rules will suffice for making good butter in any country; but, as some people are partial to the west country method, it shall also be described as briefly as possible. 1. They deposit their milk in earthen pans in their dairy-house, and (after they have stood twelve hours in the summer, and double that space in the winter) they remove them to stoves made for that purpose, which stoves are filled with hot embers; on these they remain till bubbles rise, and the cream changes its color, it is then deemed heated enough, and this they call scalded cream; it is afterwards removed steadily to the dairy, where it remains twelve hours more, and it is then skimmed from the milk and put into a tub or churn; if it be put into a tub it is beat well with the hand, and thus they obtain butter; but a cleaner way is to make use of a churn. Some scald it over the fire, but then the smoke is apt to affect it; and in either case, if the pans touch the fire, they will crack or fly, and the milk and cream will be wasted.

The Cambridgeshire salt butter is held in high esteem, and is made nearly after the same method as the Epping; and by washing and working the salt from it the cheesemongers in London often sell it at a high price for fresh butter. They deposit it, when made, into wooden tubs or firkins, which they expose to the air for two or three weeks, and often wash them; but a readier way is to season them with unslacked lime, or a large quantity of salt and water well boiled: with this they must be scrubbed several times, and afterwards thrown into cold water, where they should remain three or four days, or till they are wanted; then they should be again scrubbed, and well rinsed with cold water; but, before they receive the butter, care must be taken to rub every part of the firkin with salt: then, if the butter be properly made, and perfectly sweet, it may be gently pressed into the firkin; but it must be well salted when it is made up, and the salt should be equally distributed through the whole mass, and a good handful of salt must be spread

on the top of the firkin before it is heated, after which the head should be immediately put on. They pursue nearly the same method in Suffolk and Yorkshire; and the butter of these counties is often sold in London for that of Cambridge. No people make more butter from their cows than the Yorkshire farmers do, which is certainly owing to the care they take of them in the winter: at that season they house them all, feed them with good hay, and never suffer them to go out, except to water, but when the weather is very serene; when the cows calve, they give them comfortable malt meshes for two or three days after. These cows never answer if they are removed to other counties, except the same care and attendance be given them, and then none answer better. Land, whereon cows feed, very often affects the butter. If wild garlic, charlock, or may-weed, be found in a pasture ground, cows should not feed therein till after they have been mown, when such pernicious plants will appear no more till the following spring; but those cows that give milk must not partake of the hay, as that, also, will diffuse its bad qualities. Great part of the Epping butter is made from cows that feed during the summer months in Epping forest, where the leaves and shrubby plants contribute greatly to the flavor of the butter. The mountains of Wales, the highlands of Scotland, and the moors, commons, and heaths in England, produce excellent butter where it is properly managed; and though not equal in quantity, yet far superior in quality to that which is produced from the richest meadows: and the land is often blamed when the butter is bad through mismanagement, sluttishness, or inattention. Turnips and rape affect milk and butter, but brewer's grains are sweet and wholesome food, and will make cows give abundance of milk; yet the cream thereon will be thin, except good hay be given at the same time, after every meal of grains. Coleworts and cabbages are also excellent food; and if these and savoy were cultivated for this purpose, the farmers, in general, would find their account in it.

Butter forming an important article of commerce as well as food, the legislature has passed various statutes respecting its package, weight, and sale. The principal of these are the 36th and 38th of Geo. III.

Naturalists speak of showers and dews of a butyraceous substance. In 1675, there fell in Ireland, during the winter and following spring, a thick yellow dew, which had the medicinal properties of butter.

BUTTER OF CACAO; an oily white matter, of a firmer consistence than suet, obtained from the cacao nut, of which chocolate is made. The method of separating it consists in bruising the cacao and boiling it in water. The oil contained in the nut is by this means liquefied, and rises to the surface, where it is left to congeal, that it may be the more easily taken off. It is generally mixed with small pieces of the nut, from which it may be purified, by keeping it in fusion without water in a pretty deep vessel, until the several matters have arranged themselves according to their specific gravities. By this treatment it becomes very pure and white. It has no smell,

but a very mild taste, when fresh: and in all its general properties it resembles fat oils, among which, it must, therefore, be classed. It is used as an ingredient in poinatums.

BUTTER-FLOWER, or **BUTTER-CUP**, is a species of crow-foot. See *RANUNCULUS*.

BUTTERFLY. See *PAPILIO*.

BUTTERFLY-FISH, a name given by some to the blennus, or blennius; from a spot in the fin, which resembles those in the wings of some butterflies.

BUTTERFLY-SHELL, in natural history. See *VOLUTA*.

BUTTER-MILK is the milk which remains after the butter is obtained by churning. Butter-milk is esteemed an excellent food, in the spring especially, and is particularly recommended in hectic fevers. Some make curds of butter milk, by pouring into it a quantity of new milk hot.

BUTTER OF ANTIMONY, &c. See *ANTIMONY*, &c.

BUTTER OF STONE, a kind of mineral drug found on the highest mountains, and hardest rocks, of Siberia, being drawn by the heat of the sun, in transudation, from the dry substance of the stones themselves, and adhering to the surface thereof like a sort of calx, which, having received its full coction, is scraped off by the inhabitants under the name of kamine nastá. The Russians ascribe many virtues to it. It is much used for the dysentery and venereal diseases; but its operation is so violent, however corrected by other ingredients, that none but the Russians dare use it.

BUTTNERIA, or **BYTTNERA**, in botany, a genus of plants; class pentandria; order monogynia; essential character, *cal.* five cleft; *cor.* petals fine, three lobed at the summit, the middle lobe prolonged into a filiform kind of awn: *cap.* five grained, covered with prickles. There are eight species, all perennial shrubs; and, except *B. herbacea*, which is found in the East Indies, all natives of South America.

BUTTOCK, *n.* The thick of the hip, the rump; from *but*, thick, round; and *hock*, a joint.

This wenche thicke and wel ygrowen was,

With canuse nose, and eyen grey as glas,

With *buttokes* brode. *Chaucer's Canterbury Tales.*

It is like a barber's chair, that fits all *buttokes*.

Shakspeare.

Such as were not able to stay themselves, should be holden up by others of more strength, riding behind them upon the *buttoks* of the horse. *Knolles.*

The tail of a fox was never made for the *buttoks* of an ape. *L'Estrange's Fables.*

BUTTON, *v. & n.*

BUTTONHOLE.

Ital. *bottone*; *Fr.* *bouton*. See *Boss* and

BUTTONMAKER. *But.* A knob; a bud;

a stud used in dress. It is applied to a handle placed upon anything, and projecting or protruding from it, as a coat-button, a door-button. To button is to fasten by buttoning, or to put buttons upon a garment, &c.

A fayre russet coat the tanner had on,

Fast *buttoned* under his chin,

And under him a good cow-hide,

And a mare of four shilling.

Old Ballad.

Pray you, undo this *button*.

Shakspeare

The canker galls the infants of the spring,

Too oft before their *buttons* be disclosed. *Id.*

One whose hard heart is *buttoned* up with steel. *Id.*

Let me take you a *buttonhole* lower. *Id.*

I'll please the maids of honour, if I can:

Without black velvet breeches, what is man?

I will my skill in *buttonholes* display,

And brag, how oft I shift me every day. *Bramston.*

We fastened to the marble certain wires, and a *button*. *Boyle.*

I mention those ornaments, because of the simplicity of the shape, want of ornaments, *buttons*, loops, gold and silver lace, they must have been cheaper than ours. *Arbutnot.*

An honest man, close *buttoned* to the chin,

Broad cloth without and a warm heart within. *Cowper.*

In prologues, prefaces, be flat!

A silver *button* spoils your hat.

Garrick's Prologues.

BUTTON, in chemistry, signifies the metal which is collected in a roundish mass at the bottom of a crucible after fusion, or which remains in the cupels after cupellation; more generally called a bead.

BUTTONS, as an article of dress, are not only important to an honest man in cold weather (in the extract from Cowper), but give employment, as a manufacture, to many thousands of the population of Sheffield, Birmingham, and other large towns. Attention has, of course, been directed to the improvement of this manufacture by machinery, &c. in modern times.

Buttons are made of bone, horn, or wood, used plain, or covered with hair, cloth, thread, silk, &c.; but, of late, more commonly of metal polished, gilt, or plated. Bone or horn buttons sometimes are made with fixed shanks, and sometimes with holes, for the purpose of being sewed to the garment. The latter are called sailors' buttons, and the surface is concave in front, to preserve the thread by which they are sewed from wearing. They are made from cow-hoofs, by a process of pressing them into heated iron moulds. The hoofs, having been boiled in water till they are soft, are cut into parallel slips by a cutting knife, which is a blade, with a long handle at one end, and jointed to the bench by a hook and eye at the other. It then acts like a lever in cutting the horn placed beneath its edge. The slips being the width of the diameter of the intended button, are cross cut into small squares; and the angles of these being cut off, octagonal pieces are left nearly the size of the intended buttons. They are dyed black, by dipping them into a cauldron of water of logwood and copperas mixed. Being dried they are pressed between moulds, or pincers, represented in our plate, **BUTTON-MAKING**, fig. 3. Each plate, *a, a*, has six, eight, or ten, small steel dies fastened to it, each containing the impression of the intended buttons embossed in it. When shut, these impressions correspond. The two claws, *c, c*, enter corresponding cavities in the opposite plate, and insure them coming accurately together. The presser, being provided with a great number of different moulds, arranges them in an oven or furnace, till they become heated somewhat above boiling water. A piece of horn is then placed

BUTTON MAKING.

Fig. 1.

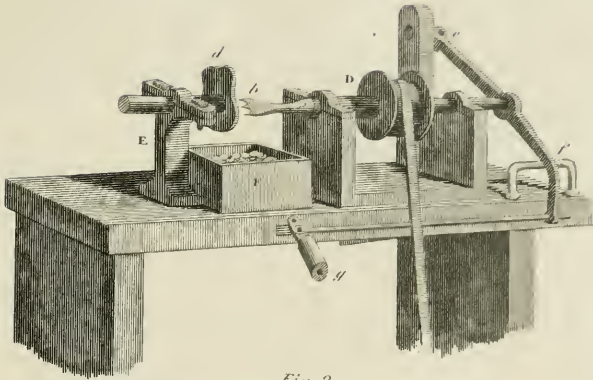


Fig. 2.

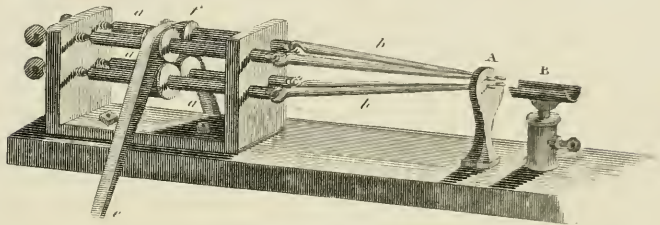


Fig. 3.

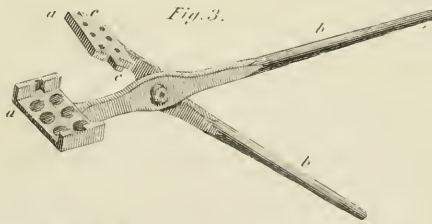
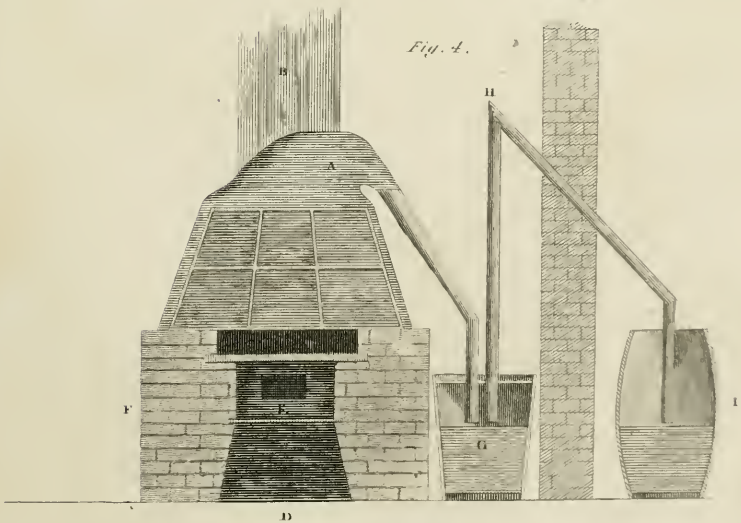


Fig. 4.



upon each impression in the mould, which is shut close, and the mould is placed in a small screw press fixed to the work bench, which holds the moulds shut together for a few minutes, till the horn is warmed and softened by being between them; and the business is finally completed by means of a pressing vice: the fashes, or edges, being clipped off by shears, are then filed smooth and round in a lathe.

Sailor's buttons have the holes (generally four) drilled in them by means of a lathe, the upper part of which is represented in fig. 2. *a, a, a, a*, are four spindles, all turning together by a common foot-wheel, like a grind-stone, by means of two straps, *e, f*, each of which turns two spindles. At the end of the spindles, is a hook, uniting them with four other spindles, *b, b*, which are supported by passing through holes in a metal standard, *A*; and their points projecting beyond this, are formed into small drills. The spindles, *A*, are placed at some distance asunder, to admit the pulleys for the straps; but the hooks acting as universal joints, allow the ends of the drills, *b*, to come very near. The button is placed in a concave rest, *B*, and thrust against the drills by a piece of wood. The standard *A* can be changed for another with more distant holes, to suit larger buttons; and the rest, *B*, can be elevated or depressed for the same purpose. Ornaments are often formed on the surface of plain horn buttons by means of a thin brass plate, out of which the pattern is cut. The plate is applied to the surface of the button, and the uncovered parts of the surface, being rubbed with emery powder, present a rough appearance, while those which are protected by the brass have a fine black polish.

Large buttons are first made from pieces of bone, and the smaller ones cut, afterwards, from the spaces left between the first; so that the materials are made to yield the utmost; and the remains are sold to farmers for manure, to the makers of hartshorn, cutlers, &c. Various hard woods are cut into large buttons in the same manner, and afterwards dyed black in an infusion of sulphate of iron and gall nuts. Oak, beech, or elder, are chiefly used in this country.

Buttons intended to be covered with cloth, silk, &c. are called also moulds. They are made from the refuse chips of bone, sawn into thin flakes, and perforated in the centre by two operations, illustrated in fig. 1. One end of the spindle *D*, has a tool *b*, screwed into, and moving along with it. The other end of the spindle is connected by a peculiar kind of joint, with a lever *e, f*, whose fulcrum is *c*; the other end *f*, being connected with a second lever and handle *g*, which the operator holds in his left hand. The right hand is employed in holding the flake of bone *d* opposite the tool *b*, against a piece of wood firmly fixed into the iron standard *E* by two screws; then, by drawing the handle *g* forwards, the tool *b* being at the same time in rapid motion by the foot wheel, with which *c* is connected; its centre pin *k*, is pressed against the bone, and drills a hole through in the centre of the intended button; while its two other points describe a deep circle in the bone, about half through its thickness. The flat surface is cut smooth by the intermediate parts of the tool.

The piece is now moved a small distance, to cut out another button from a fresh part; and when as many as the flake of bone will contain are thus cut half through, the other side is presented to the tool. The point *k* is inserted into the hole made from the other side by the former operation. The other two teeth of the tool now cut another deep circle, exactly opposite the former, at the same time cutting the flat surface smooth. By this means the bone is cut through, and a button mould left sticking on the point of the tool. By drawing back the handle *g*, the tool recedes, and the button meeting a fixed piece of iron plate, is forced off the tool, and falls into a small box *F*, completely finished. So rapid are these operations, that a girl of ten or twelve years of age will cut out in one minute, twenty-five or thirty buttons. Moulds are chiefly used at present sewn up in a piece of the same cloth with the garment for which they are designed. They were formerly covered by women, &c. with the most costly materials. Each had a large needle fixed in the table opposite the part where she was seated, and a bobbin, containing the thread to cover the button. The mould was stuck by the hole in its centre upon the needle, and the end of a thread of silk, mohair, and sometimes gold thread, put through the centre at the same time, to fasten one end; the thread was then wound about the button mould to cover it, and give such an ornamental surface as fashion dictated. Some manufactured silk buttons are still used. These are not finished until the superfluous hairs and hubs of silk are taken off, which is done in the following manner: a quantity are put into a kind of iron sieve, called by workmen a singeing box. Then a little spirit of wine being poured into a shallow iron dish, and set on fire, the workman moves and shakes the singeing box, containing the buttons, over the flame of the spirit, by which the superfluous hairs, hubs of silk, &c. are burnt off, without damaging them. Great care, however, must be taken that the buttons in the singeing box be kept continually in motion; for if they are suffered to rest over the flame, they will immediately burn. When all these loose hairs, &c. are burnt off by the flame of the spirit, the buttons are taken out of the singeing box, and put, with a proper quantity of the crumbs of bread, into a leather bag, about three feet long, and of a conical shape: the mouth or smaller end of which being tied up, the workman takes one of the ends in one hand and the other in the other, and shakes the hand briskly with a particular jerk. This operation finally cleanses the buttons, and renders them very glossy.

The basis of metal buttons is generally an inferior kind of brass, pewter, or other composition: the shanks made of brass or iron wire are a distinct manufacture; but the buttons are cast round the shank in the following manner. The workmen have a metal pattern consisting of a great number, say from four to twelve dozen of buttons, connected in one plane by very small bars. An impression from this pattern being taken in sand, the shanks are pressed into it, each in the centre of one impression; the part which is to enter the button top being made to

project a little above the surface of the sand. The whole surface of it is now covered with the fused metal, to which sometimes a portion of zinc is added, for the purpose of making it flow freely, and producing a sharp impression. The metal being cooled, the buttons are taken from the moulds, cleaned from the sand by brushing, and are ready for the lathe, where the edges are filed round and smoothed. A person is then employed in smoothing the back of the button and turning the projecting part of the shank. This operation is also performed in the lathe, as well as that of smoothing the face of the button.

The next operation, polishing, is generally performed by women. The shank of the button being secured, the face is rubbed on a board covered with leather, and spread with powder of rotten-stone; in a second polishing a finer powder is employed; and the last polish is given by holding the button lightly to a circular board, which is covered with soft leather spread over with still finer powder of the same materials. The board is moved by the lathe.

The last operation is boiling or washing, for the purpose of communicating a purer white to the surface. This is performed by boiling a quantity of granulated tin in a solution of cream of tartar. A portion of the tin being dissolved, and the buttons arranged on a grating of wire, being immersed in the solution, their surface is covered with a thin layer or wash of the metal, which improves their whiteness without affecting the polish.

Plated buttons are cut by a fly-press, at the flattening-mill, out of copper plate, covered on one side with silver. The copper side is placed upwards in stamping it out, and the die or hole through which they are stamped, is rather chamfered at its edge, to make the silver turn over the edge. These pieces are called blanks, and they are now introduced into a furnace to undergo the annealing process, which fits them for that of stamping. This is done by a machine very similar to the common pile-driver. The striking part, which is from one to two hundred weight, carries the die on its lower surface, and the plate or button is fixed beneath it. It is raised by means of a pulley and rope, which the workman moves partly with his hands and partly with one foot, placed in a stirrup. In this manner it is drawn up with a sudden dexterous jerk; and, when it is sufficiently elevated, let go as suddenly. When any impression is to be given to a plated button, after the shank has been attached, the latter is introduced into a cavity, formed by two pieces of steel, which, when united together, form a cone, and the top is convex, to correspond with the concave back of the button.

The soldering on of the shank is performed on each button separately by means of the flame of a lamp and a blow-pipe. Silver solder is generally employed. For plain plated buttons, the next operation is to smooth the edges with a file in the lathe. To clean the backs, the buttons are dipped in acid; and to whiten them they are boiled in cream-of-tartar and silver. The backs are then brushed clean as they revolve in the lathe, when they are ready for burnishing. This

is also performed in the lathe: the blood-stone or burnishing substance being an ore of iron, fixed in the handle; and frequently dipped in water. To render the polish still more perfect, a stone of finer quality is afterwards employed, and this finishes the button.

Gilt buttons are stamped from copper, with sometimes an alloy of zinc, and laminated in the flattening mill and stamped, after the manner of the plated button. The stamping rendering the face slightly convex prevents the buttons from sticking together in gilding. But the soldering of the shanks is managed in a different manner from that of the plated buttons. Each blank is furnished with a small spring, like a pair of tweezers, which holds the shank down upon it in the proper place. A small portion of spelter and borax, mixed with water, is now placed round each shank, and ten or twelve dozen of buttons being thus prepared, are placed on a flat iron plate, which is placed in an oven of temperature sufficient to fuse the solder; when this is accomplished they are withdrawn, and while yet warm, are thrown into a liquor which is called the pickle, and is composed of water with the addition of aqua-fortis, or weak nitric acid. The action of the acid makes the surface black, and the edges of the buttons are then filed and smoothed in a lathe. They are then dipped in a second pickle more diluted with water, by which the surface is cleaned, and, after being burnished in the lathe, are ready for the process of gilding.

Five grains of gold are fixed by act of parliament as the legal quantity for gilding twelve dozen of buttons of one inch diameter. It is put into an iron ladle with a small quantity of quicksilver, and exposed to heat till the metals are united. The buttons are then placed with the amalgam of gold and mercury in an earthen pan, together with as much aqua-fortis as will moisten the whole, and the mixture is stirred with a brush until they are completely whitened: this is called the quickening of them. An operation now succeeds called drying off, or separating the mercury from the gold, and fixing the latter on the buttons. This is accomplished by shaking them over a fire in a flat iron pan until the mercury appears to melt. The buttons are now thrown into a felt cap, and stirred about with a brush, that the amalgam may be equally spread over their surface, and, while it is at that temperature which renders the mercury nearly volatile, the buttons are returned to the pan, the increased heat drives off the mercury in a state of vapor, and the gold begins to appear distinctly. This process is repeated, and, if any white spots should remain, the buttons are put into a cylindrical copper box with a lid, and turned round on a charcoal fire to heat all the parts equally, until the remaining mercury is separated. The buttons now have only to be burnished by the same operation as has been described in respect to finishing plated buttons. In some cases they are double and treble gilt.

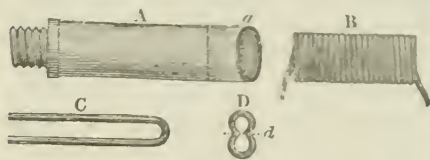
Sometimes gilt buttons are milled on the edge like coin, and the machine employed is similar to that which is used for milling coin. The milling tool is a small steel roller, on the circumference

of which the pattern required is cut: the operation is performed in the lathe, and the instrument is held in a side rest, that circles of the same diameter may be formed on all the buttons.

The process of gilding buttons, or the drying off, being, from the vapor of the mercury, exceedingly dangerous to the operator, an apparatus, fig. 4, has been employed with success, by Mr. Mark Sanders, an eminent button manufacturer at Birmingham, for drying off buttons, and at the same time preserving the mercury evaporated in the process. It is thus described in the *Philosophical Magazine*, vol. ix. A hearth, or fire-place, of the usual height, is to be erected; in the middle of which, a place for the fire is to be made; but instead of admitting the smoke to ascend into the top A, made of sheet or cast iron, through which the mercury is volatilised, a flue for that purpose should be conducted backwards to the chimney B. An iron plate, thick enough to contain heat sufficient to volatilise the mercury, is to cover the fire-place at the top of the hearth C. There must be an ash-hole D under the fire-place. The dark square space E, seen in the fire-place, is the flue which serves to carry the smoke back under the hearth into the chimney B. The door of the fire-place and the ash-pit, may either be in front or at the end of the hearth at F, which will perhaps less incommode the work people. The space between A and the iron plate C, is covered up with a glass window, coming down so low as to leave sufficient room for moving the pan backwards and forwards with facility. If the sides were also glass instead of brick-work it would be still better, as the work people would be able to have a full view of their work without being exposed to the fumes of the mercury, which when volatilised, by heat communicated to the pan by the heated iron plate over the fire-place, ascends into the top A, appropriated for its reception, and descends into the tub G, covered at top, and filled pretty high with water. By this means the hearth would in fact become a distilling apparatus for condensing and recovering the volatilised mercury. In the tub G the principal part would be recovered; for, of what may still pass on, a part would be condensed in ascending the tube H, and fall back, while the remainder would be effectually caught in the tube or cask I, open at the top and partly filled with water. The latter tub should be on the outside of the building, and the descending branch of the tube H should go down into it at least eighteen inches, but not into the water. The chimney or ash-pit should be furnished with a damper to regulate the heat of the fire. The water may be occasionally drawn out of the tube by a siphon; and the mercury, clogged with heterogeneous matter, may be triturated in a piece of flannel till it passes through, or placed in a pan of sheet iron, like a dripping-pan, in a sufficient degree of heat, and having such an inclination that the mercury, as it gets warm, may run down and unite in the lower part of the pan. But the mercury will be most effectually recovered by exposing the residuum left in the flannel bag to distillation, in a retort made of iron or earthenware.

BUTTON-SHANKS are generally made from

brass or iron wire bent, and are cut by these means: The wire being wound spirally round a piece of steel bar, A in the diagram. The coil B



thus formed is slipped off, and a wire-fork C put into it. It is now laid upon an anvil, and by a punch the coil is beat down between the two branches of the fork C, so as to be in the state D. The punch has an edge which marks the middle d, and the coil being cut open by a pair of shears along this mark, each turn of the coil is divided into two perfect button shanks.

An ingenious improvement on this, however, is said to have been lately introduced at Birmingham. A machine is contrived that, merely by turning a winch, supplies itself with wire from a reel, and, after performing the different operations of cutting and bending to the proper form, delivers the shank completely finished. One shank is formed at each turn of the winch, and the power required to set it in motion is so small, that the strength of a boy is sufficient. The inventor, however, employs a small steam-engine as his moving power, and in this way can produce these articles at a very trifling advance upon the cost of the wire.

BUTTON, in fencing, signifies the tip of a foil, made roundish, and usually covered with leather, to prevent contusions or wounds.

BUTTON, in the menage, the button of the reins of a bridle, is a ring of leather, with the reins passed through it, which runs all along the length of the reins. To put a horse under the button, is when a horse is stopped without a rider upon his back, the reins being laid on his neck, and the button lowered so far down that the reins bring in the horse's head, and fix it to the true posture or carriage. Not only the horses managed in the hand must be put under the button; but the same method must be taken with such horses as are bred between two pillars, before they are backed.

BUTTON-STONE, in natural history, a kind of figured stone, so denominated from its resembling the button of a garment. Dr. Hook gives the figure of three sorts of button-stones, which seem to have been nothing else but the filling up of three sorts of shells. They are all very hard flints; and have this in common, that they consist of two bodies, which seem to have been the filling up of two holes or vents in the shell. Dr. Plot describes a species finely striated from the top, after the manner of some hair-buttons. This name is also given to a peculiar species of slate found in the marquisate of Bareuth, in a mountain called Fichtelberg; which is extremely different from the common sorts of slate, in that it runs with great ease into glass in five or six hours, without the addition of any salt or other foreign substance, to promote its vitrification. It contains in itself all the principles of glass, and really has mixed in its substance the things

necessary to be added to promote the fusion of other stony bodies. The Swedes and Germans make buttons of the glass produced from it, which is very black and shining, and it has hence its name button-stone. They make several other things, also, of this glass, as the handles of knives and the like, and send a large quantity of it unwrought in round cakes, as it cools from the fusion, into Holland.

BUTTRESS, *v.* } Sax. *butereis*, from *but*,
 BUTRESS, *n.* } external, and Goth. *reisa*,
 to raise; prop, or support; to *buttress* is,
 therefore, to prop up a building, or any object,
 that requires support, by external means.

No jutting frize

Buttress, nor coigne of vantage, but this bird

Hath made his pendant bed, and procreant cradle.
Shakspeare.

But we inhabit a weak city here,

Which *buttresses* and props but scarcely bear.

Dryden.

It will concern us to examine the force of this plea,
 which our adversaries are still setting up against us,
 as the ground pillar and *buttress* of the good old cause
 of nonconformity. *South.*

If ancient fabrics nod, and threat to fall,

To patch their flaws, and *buttress* up the wall,

Thus far 'tis duty: but here fix the mark,

For all beyond it is to touch the ark. *Roscommon.*

Then another question arises, whether this house
 stands firm upon its ancient foundations, and is not,
 by time and accidents, so declined from its perpen-
 dicular as to want the hand of the wise and experi-
 enced architects of the day to set it upright again,
 and to prop and *buttress* it up for duration. *Burke.*
Reform of Representation in the House of Commons.

BUTRESS is a kind of butment built archways,
 or a mass of stone or brick, serving to prop or
 support the sides of a building, wall, &c. on the
 outside, where it is either very high, or has any
 considerable load to sustain on the other side, as
 a bank of earth, &c. Buttresses are used against
 the angles of steeples, and other buildings of
 stone, &c. on the outside, and along the walls of
 such buildings as have great and heavy roofs,
 which would be subject to thrust the walls out,
 unless very thick, if no buttresses were placed
 against them. They are also placed for a but-
 ment against the feet of some arches, that are
 turned across great halls in old palaces, abbeys,
 &c.

BUTUS, or BUTO, in ancient geography, a
 town of Lower Egypt, on the west side of the
 branch of the Nile, called Thermuthiacus: to-
 wards the mouth called Ostium Sebennyticum.
 In this town stood an oracle of Latona. Ptolemy
 places Butus in the Nomos Phthenotes. It had
 temples of Apollo and Diana, but the largest was
 that of Latona, where the oracle stood.

BUTYRIC ACID. Chevreul states, that but-
 ter is composed of two fat bodies, analogous to
 those of hog's lard, of a coloring principle, and
 an odorous one, which gives it that distinguish-
 ing principle by which it differs from mere fats.
 To this principle he has given the name of buty-
 ric acid, which, like other acids, unites with
 earths and metals, and thus forms salts; 100
 parts, we are told by Chevreul, neutralise a
 quantity of base, which contains about ten of
 oxygen; but he does not mention the process by

which this acid is best separated from the other
 principles of butter.

BUTZBACH, a town of Germany, in the
 grand duchy of Hesse. It contains 3100 inha-
 bitants, a great number of whom are employed
 in the manufactory of linen and woollen stuffs,
 worsted stockings, and shoes. Seven miles
 S. S. W. of Giessen.

BUXAR, a town and fortress of Hindostan,
 province of Bahar; situated on the south bank
 of the Ganges, and celebrated for the victory
 gained in its vicinity in 1764, by the British,
 over the united armies of the nabob Shuja ad
 Dowleh, and Cossim Aly Khan. Long. 83° 58'
 E., lat. 25° 35' N.

BUXBAUMIA, in botany, a genus of the
 order musci, and cryptogamia class of plants;
 ovate capsule, gibbous on one side at the base;
 fringe double; outer of sixteen short truncate
 teeth; inner a plated membrane. Species, two
 only; one, *B. foliosa*, a native of our own
 country.

BUXENTUM, or PYXUS, a town of Lucania,
 first built by the people of Messina, but after-
 wards deserted. A Roman colony was sent
 thither, and when found still thin of inhabitants,
 a new colony was sent by a decree of the senate.
 Its name is from *buxus*, the box tree, growing
 plentifully there. Strabo says, the name Pyxus
 includes a promontory, port, and river, under
 one. It is now called Policastro.

BUX'OM, } Goth. *bugsam*; Sax. *bug-*
 BUX'OMLY, } sum; easily bended or bowed
 BUX'OMNESS. } to the will of another; obe-
 dient, jolly, good humored, wanton.

———— my dear wif! I thee b-seke

As be to every wight *buzom* and neke;

And for to kepe our good be curious;

And honestly governe wel our hous

Chaucer's Canterbury Tales.

For many han unto mischiefe fall,

And ben of ravenous wische yrent,

And for they would be *buxome* and bent.

Spenser.

It was from a cellar this archer did play,

Where a *buzom* young damsel continually lay;

Her eyes shone so bright when she rose every day,

That she shot the poor cobbler quite over the way.

Old Song.

I'n born

Again a fresh child of the *buzom* morn,

Heir of the sun's first beams.

Crashaw.

Zeephyr, with Aurora playing,

As he met her once a maying,

Fill'd her with thee, a daughter fair,

So *buzom*, blithe, and debonnaire.

Milton.

He, with broad sails,

Winnow'd the *buzom* air.

Id.

Almighty Jove descends, and pours

Into his *buzom* bride his fruitful showers.

Dryden.

She feign'd the rights of Bacchus! cried aloud,

And to the *buzom* god the virgin vowed.

Id.

Lord! cries a *buzom* widow, loud and strong,

He's quite a boy! to play that part is wrong.

Garriek's Prologues.

BUXTON, a town in the Peak of Derby,
 celebrated for its medicinal waters; from the
 resort to which, this place has grown into a con-
 siderable town. The houses are chiefly, or
 rather solely, built for the reception of invalids;

and many of them are not only commodious, but elegant. The duke of Devonshire has erected a most magnificent building in the form of a crescent, with piazzas, under which the company walk in wet or cold weather. It is divided into different hotels, shops, &c. with a public coffee-room, and a very elegant room for assemblies and concerts; and has twenty-nine windows in length on each floor, besides five at each end. There are stables on the back of this building, of an octagonal form on the outside, and circular within the yard, where there is a riding-house. The principal trade is the cotton manufacture. It lies in an open healthy country, twenty-three miles from Manchester, thirty-two north-west of Derby, and 160 N.N.W. of London.

It is asserted by antiquaries, that the Romans were well acquainted with the wells of Buxton, as there is a military way still visible, called the Bath-gate, seven miles long, from Burgh to this place. When, about a century ago, Sir Thomas Delves, of Cheshire, caused a monument to be erected in memory of a cure he received here, the workmen in digging for the foundations, came to the remains of a solid and magnificent Roman structure; in other places of the neighbourhood very capacious leaden vessels, and other utensils, of Roman workmanship, have also been discovered. These waters are mentioned by Leland as well known above 200 years ago. They were brought into great credit, by a Dr. Jones, in 1572, and by George Earl of Shrewsbury, who erected a building over the bath, then composed of nine springs. The warm waters are the bath, consisting of nine springs, St. Ann's well, and St. Peter's or Bingham well. St. Ann's well rises at the distance of somewhat more than thirty-two yards north-east from the bath. It is chiefly supplied from a spring on the north side, out of a rock of black limestone, or bastard marble. It formerly rose into a stone basin, shut up within an ancient Roman brick wall, a yard square within, a yard high on three sides, and open on the fourth. But in 1709 Sir Thomas Delves erected an arch over it, twelve feet long and as many broad, set round with stone steps on the inside. In the midst of this dome the water springs up into a stone basin two feet square. St. Peter's or Bingham well rises about twenty yards south-east of St. Ann's. It is also called Leigh's well, from a memorable cure received from it by a gentleman of that name. It rises out of a black limestone, in a very dry ground; and is not so warm as St. Ann's well. The hot water resembles that of Bristol. It has a sweet and pleasant taste. The principal peculiarity in the appearance is a large quantity of elastic vapor, that rises and forms bubbles, which pass through the water, and break as soon as they reach the surface. The air of these bubbles was ascertained by Dr. Pearson to consist of azotic gas, mixed with a small proportion of atmospheric air. Buxton water is frequently employed both internally and externally: one of which methods often proves beneficial, when the other would be injurious; but, as a bath alone, its virtues may not be superior to those of tepid common water. It contains the calcareous earth, together with a small quantity of sea salt, and an

inconsiderable portion of a purging salt, but no iron can be discovered in it. This water taken inwardly is esteemed good in the diabetes, bloody urine, bilious cholic, loss of appetite, coldness of the stomach, inward bleedings, atrophy, contractions of the vessels and limbs, especially from age, cramps and convulsions; dry asthma without fever, and in barrenness. Inwardly and outwardly, it is said to be good in rheumatic and scorbutic complaints, the gout, inflammation of the liver and kidneys, consumptions of the lungs, old strains, hard callous tumors, withered and contracted limbs, the itch, scabs, nodes, chalky swellings, ring worms, and similar complaints. Besides the hot water, there is also a cold chalybeate water, with a rough irony taste: it resembles the Tunbridge water in virtues. For composing artificial Buxton water, or impregnating the original water with a greater quantity of its own or other gases, see **WATERS, MEDICINAL.**

BUXTON (Jedidiah), a prodigy of the last century, with respect to skill in numbers. His father, William Buxton, was schoolmaster of the parish where he was born, in 1704, yet Jedidiah's education was so much neglected that he was never taught to write; and, with respect to any other knowledge but that of numbers, seemed always as ignorant as a boy of ten years of age. How he came first to know the relative proportions of numbers, and their progressive denominations, he did not remember; but he applied the whole force of his mind to them from an early age, and upon them his attention was constantly fixed: so that he frequently took no cognisance of external objects, and when he did, it was only with respect to their numbers. If any space of time was mentioned, he would soon after say it was so many minutes; and if any distance of way, he would assign the number of hairs' breadths, without any question being asked, or any calculation expected by the company. When he once understood a question, he began to work with amazing facility, after his own method, without the use of a pen, pencil, or chalk, or even understanding the common rules of arithmetic as taught in the schools. He would stride over a piece of land or a field, and tell the contents of it almost as exact as if it had been measured by the chain. In this manner he measured the whole lordship of Elmtun, of some thousand acres, belonging to Sir John Rhodes, and brought him the contents, not only in acres, roods, and perches, but even in square inches. After this, for his own amusement, he reduced them into square hair breadths, computing forty-eight to each side of the inch. His memory was so great, that while resolving a question, he could leave off, and resume the operation again, where he left off, the next morning, or at a week, a month, or at several months, and proceed regularly till it was completed. His memory would doubtless have been equally retentive with respect to other objects, if he had attended to other objects with equal diligence; but his perpetual application to figures prevented the smallest acquisition of any other knowledge. He was sometimes asked, on his return from church, whether he remembered the text, or any part of the ser-

mon, but it never appeared that he brought away one sentence; his mind, upon a closer examination, being found to have been busied, even during divine service, in his favorite operation, either dividing some time, or some space, into the smallest known parts, or resolving some question that had been given him as a test of his abilities. As this extraordinary person lived in laborious poverty, his life was uniform and obscure. Time, with respect to him, changed nothing but his age; nor did the seasons vary his employment, except that in winter he used a flail, and in summer a ling-hook. In 1754 he came to London, where he was introduced to the Royal Society, who, in order to prove his abilities, asked him several questions in arithmetic, and he gave them such satisfaction, that they dismissed him with a handsome gratuity. In this visit to the metropolis, the only object of his curiosity, except figures, was to see the king and royal family; but they being at Kensington, Jedidiah was disappointed. During his residence in London, he was taken to see King Richard III. performed at Drury-lane theatre; and it was expected, either that the novelty and splendor of the show would have fixed him in astonishment, or kept his imagination in a continual hurry, or that his passions would, in some degree, have been touched by the power of action, if he had not perfectly understood the dialogue. But Jedidiah's mind was employed in the theatre just as it was employed in every other place. During the dance he fixed his attention upon the number of steps; he declared, after a fine piece of music, that the innumerable sounds produced by the instruments had perplexed him beyond measure; and he attended even to Mr. Garrick, only to count the words that he uttered, in which he said he perfectly succeeded. Jedidiah returned to the place of his birth, where, if his enjoyments were few, his wishes did not seem to be greater. He applied to his labor with cheerfulness; he regretted nothing that he left behind him in London; and it continued to be his opinion, that a slice of rusty bacon afforded the most delicious repast.

BUXUS, the box-tree, a genus of the tetrandria order, and monœcia class of plants; natural order, thirty-eighth, tricocœæ. Male *CAL.* tryphyllous; cor. two-petalled; the germ an embryo, or imperfect rudiment. Female *CAL.* is tetraphyllous; cor. three-petalled; the capsule is three-beaked and trilobular, with three seeds. There are three species; viz. 1. *B. angustifolia*, the narrow-leaved box; 2. *B. arborescens*, with oval leaves. These two species grow in great plenty upon Box-hill, near Dorking, in Surrey. Here were formerly large trees of that kind; but now they are few in number. The *arborescens*, or large box-tree, is proper to intermix in clumps of evergreens, &c. where it adds to the variety of such plantations; they are a very great ornament to cold and barren soils, where few other things will grow. The leaves possess a very strong nauseous bitter taste, and aperient virtues. They are occasionally exhibited, in form of decoction, amongst the lower orders of people, in cases of dropsy, asthma, and worms. As much as will lie upon a shilling, of the common dwarf box,

dried and powdered, may be given at bed-time, every night, to an infant. Boxwood is extremely hard and smooth, and therefore well adapted to the use of the turner. Combs, mathematical instruments, knife-handles, and button moulds, are made of it. It is also used for wood engravings. It may properly enough be substituted in default of ebony, the yellow alburnum of which it perfectly resembles. Decoction of boxwood has been recommended by some as a powerful sudorific, preferable even to giacium; but the taste readily discovers that it wants the qualities of that wood. Neither the wood nor the leaves of the box-tree at present are used for any other medicinal purpose than the distillation of an empyreumatic oil; and an oil of nearly the same quality is obtained from almost every other wood. 3. *B. suffruticosa*, dwarf or Dutch box, commonly used for bordering flower-beds. It is increased by parting the roots, or planting the slips but as it makes a great increase of itself, and easily parts, it is hardly worth while to plant the slips that have no roots. For borders to flower plots, it far excels any other plant; being subject to no injuries from cold or heat. It is of long duration; is easily kept handsome; and, by the firmness of its rooting, keeps the mould in the borders from washing into the gravel walks more effectually than any plant.

BUXTORF (John), a learned philologist, and Hebrew scholar, born in 1564 at Camen, in Westphalia. He became Chaldee and Hebrew professor at Basil, where he died in 1629. His principal works, are 1. *Lexicon Chaldaicum, Talmudicum, et Rabbinicum*, fol. 2. A small Hebrew and Chaldaic Lexicon, 12mo. 3. *The-saurus Linguae Hebraicæ*, 2 vols. 8vo. 4. A Hebrew Bible, with a Rabbinical Commentary, 4 vols. fol. 5. *Synagoga Judaica*. 6. *Institutio Epistolæ Hebraicæ*; 7. *Concordantiæ Hebraicæ*, &c.

BUXTORF (John), son of the former, born at Basil in 1599. He succeeded to his father's professorship; and published a book against Capellus, entitled *Tractatus de Punctorum Vocalium et Accentuum in Libris Veteris Testamenti Hebraicæ Origine, Antiquitate, et Auctoritate*, 1648. He also compiled a Chaldaic and Syriac Lexicon, and other works. He died in 1664.

BUY, *v.* } Mod. Goth. *buggan*; Sax. *bygan*; Swed. *bygga*; *byta*; Teut. *byt'en*; *beuten*; Per. *biutan*; Old Fr. *bi-guer*; Sans., and Ara. *bicu*; Sax. *bige*, traffic. To purchase; to procure by giving a price, either money, or an equivalent; opposed to gift, or theft.

The shepherds there robben one another,
And layen baytes to beguile hir brother;
Or they will *bye* his sheepe out of the cote,
Or they will carven the shepheardes throte.

Spenser's Shepheard's Calender.

We loath the very light (some of us, as Seneca notes,) because it comes free; and we are offended with the sun's heat, and those cool blasts, because we *buy* them not.

Burton Anat. Mcl.

I have bought

Golden opinions from all sorts of people. *Shakespeare.*

Pent to linger

But with a grain a day, I would not *buy*
Their mercy at the price of one fair word. *Id*

I will *buy* with you, sell with you, talk with you, walk with you, and so following. *Id.*

What pitiful things are power, rhetorick, or riches, when they would terrify, dissuade, or *buy off* conscience! *South.*

In little trades, more cheats and lying

Are used in selling than in *buying*;

But in the great, unjust dealing

Is used in *buying*, than in selling. *Butler.*

Pleasure with praise and danger they would *buy*,
And wish a foe that would not only fly. *Denham.*

Husbands, more covetous than sage,

Condemn this China-*buying* rage. *Gay.*

He has ordered my master to *buy* no more books for me, but says he will *buy* them himself.

Steele. Spectator.

BUZZ, *v. & n.* } Lat. *musso*, from *musca*;
BUZZING, } and Fr. *bourdon* a drone bee.
BUZZER. } A humming noise, like that of bees; a whisper; a murmur; a continued uninterrupted monotonous sound.

And all the chamber filled was with flies
Which *buzzed* all about, and made such sound,
That they encumbered all men's ears and eyes,
Like many swarms of bees assembled round. *Spenser.*

Herewith arose a *buzzing* noise among them, as if it had been the rustling sound of the sea afar off.

Hayward.

There is such confusion in my powers,

As, after some oration fairly spoke

By a beloved prince, there doth appear

Among the *buzzing* multitude. *Shakespeare.*

Where doth the world thrust forth a vanity,

That is not quickly *buzz'd* into his ears? *Id.*

I will *buzz* abroad such prophecies,

That Edward shall be fearful of his life. *Id.*

Did you not hear

A *buzzing* of a separation

Between the king and Catharine? *Id.*

Her brother is in secret come from France,

And wants not *buzzers* to infest his ear

With petulant speeches of his father's death. *Id.*

The hive of a city or kingdom is in best condition when there is least noise or *buzz* in it. *Bacon.*

When every knight and citizen

Kept legislative journey-men,

To bring them in intelligence

From all points of the rabble's sense,

And fill the lobbies of both Houses

With politic important *buzzes*.

Butler's Hudibras.

We join, like flies and wasps, in *buzzing* about wit.

Swift.

Where I found the whole outward room in a *buzz* of politticks. *Addison.*

And here the *buzz* of eager nations ran,

In murmured pity, or loud-roared applause,

As man was slaughtered by his fellow man.

Byron's Child Harold.

BUZZARD; *Per. buz, buz*; *Fr. buzard*; *Lat. buteo*. A species of hawk, Johnson says, mean and degenerate. Hence it is metaphorically applied to a blockhead, or a dunce.

This have I heard oft in saying,—

That man ne maie for no daunting

Make a sperhawk of a *bosarde*.

Chaucer. Romaunt of the Rose.

BUZZARD, in ornithology, the name of several species of the hawk kind. See *FALCO*.

BY. The preposition. *Mæso Goth. bi*; *Swed. and Sax. bi*; *Belg. by*; *Teut. bei*; *Arab. and Per. bi, bu*. Tooke makes it the imperative of

Ang-Sax. beon. This word can only be classified according to the distinctions so judiciously marked out by Dr. Johnson. Change here would not be improvement, but injury.

It notes the agent.

The Moor is with child *by* you, Launcelot.

Shakespeare.

The grammar of a language is sometimes to be carefully studied *by* a grown man.

Loche.

Death 's what the guilty fear, the pious crave,

Sought *by* the wretch, and vanquished *by* the brave.

Garth.

It notes the instrument, and is commonly used after a verb neuter, where *with* would be put after an active; as he killed her *with* a sword; she died *by* a sword.

But *by* Pelides' arms when Hector fell,

He chose *Æneas*, and he chose as well.

Dryden.

It notes the cause of any effect.

I view, *by* no presumption led,

Your revels of the night.

Parnell.

By woe the soul to daring action steals,

By woe in pliantless patience it excels.

Savage.

It notes the means by which any thing is performed, or obtained.

You must think, if we give you any thing, we hope to gain *by* you.

Shakespeare.

Happier! had it sufficed him to have known

Good *by* itself, and evil not at all. *Milton.*

It shows the manner of an action.

I have not patience: she consumes the time

In idle talk, and owns her false belief:

Seize her *by* force, and bear her hence unheard.

Dryden.

By chance, within a neighbouring brook,

He saw his branching horns, and altered look.

Addison.

It has a signification, noting the method in which any successive action is performed with regard to time or quantity.

The best for you, is to re-examine the cause, and try it even point *by* point, argument *by* argument, with all the exactness you can.

Hooker.

We are not to stay altogether, but to come by him, where he stands, *by* ones, *by* twos, and *by* threes.

Shakespeare.

Others will soon take pattern and encouragement *by* your building; and so house *by* house, street *by* street, there will at last be finished a magnificent city.

Spratt.

It notes the quantity had at one time.

Bullion will sell *by* the ounce for six shillings and five pence unclipped money.

Locke.

What we take daily *by* pounds, is at least of as much importance as what we take seldom, and only *by* grains and spoonfuls.

Arbutnot.

The north *by* myriads pours her mighty sons;

Great nurse of Goths, of Alans, and of Huns.

Pope.

At, or in; noting place: it is now perhaps only used before the words *sea*, or *water*, and *land*. This seems a remnant of a meaning now little known. *By* once expressed situation; as *by* west, westward

We see the great effects of battles *by* sea; the battle of Actium decided the empire of the world.

Bacon.

I would have fought *by* land, where I was stronger; You hindered it; yet, when I fought at sea,

Forsook me fighting.

Dryden.

By land, *by* water, they renew their charge.

Pope.

According to; noting permission.

It is lawful, both *by* the laws of nature and nations, and *by* the law divine, which is the perfection of the other two. *Bacon's Holy War.*

According to; noting proof.

The present, or like, system of the world cannot possibly have been eternal, *by* the first proposition; and without God it could not naturally, nor fortuitously, emerge out of chaos, *by* the third proposition. *Bentley.*

The faculty, or desire, being infinite, *by* the preceding proposition, may contain or receive both these. *Cheyne.*

After; according to; noting imitation or conformity.

The gospel gives us such laws, as every man, that understands himself, would chuse to live *by*. *Tillotson.*

This ship, *by* good luck, fell into their hands at last, and served as a model to build others *by*. *Arbuthnot.*

From; noting ground of judgment, or comparison.

Thus, *by* the musick, we may know, When noble wits a hunting go Through groves that on Parnassus grow. *Waller.*

By what he has done, before the war in which he was engaged, we may expect what he will do after a peace. *Dryden.*

It notes the sum of the difference between two things compared.

Meantime she stands provided of a Laius, More young and vigorous too *by* twenty springs. *Dryden.*

Her brother Rivers, Ere this, lies shorter *by* the head at Pomfret. *Rowe.*

It notes co-operation.

By her he had two children at one birth. *Shakspeare.*
For: noting continuance of time. This sense is not in use.

Ferdinand and Isabella recovered the kingdom of Grenada from the Moors; having been in possession thereof *by* the space of seven hundred years. *Bacon.*

As soon as; not later than: noting time.

By this, the sons of Constantine which fled, Ambrose and Uther, did ripe years attain. *Faerie Queene.*

Hector, *by* the fifth hour of the sun, Will with a trumpet, 'twixt our tents and Troy, To-morrow morning call some knight to arms. *Shakspeare.*

By this time the very foundation was removed. *Swift.*

By the beginning of the fourth century from the building of Rome, the tribunes proceeded so far as to accuse and fine the consuls. *Id.*

Beside: noting passage.

Many beautiful places, standing along the sea shore, make the town appear longer than it is to those that sail *by* it. *Addison.*

Beside; near to; in presence: noting proximity of place.

So thou may'st say, the king lies *by* a beggar, if a beggar dwell near him; or the church stands *by* thy labour, if thy labour stand *by* the church. *Shakspeare.*

Before *himself*, *herself*, or *themselves*, it notes the absence of all others.

He will imagine, that the king and his ministers sat down and made them *by themselves*, and then sent them to their allies to sign. *Swift.*

More pleased to keep it till their friends could come, Than eat the sweetest *by themselves* at home, *Pope.*

At hand.

He kept then some of the spirit *by* him, to verify what he believes. *Boyle.*

The merchant is not forced to keep so much money *by* him, as in other places, where they have not such a supply. *Locke.*

It is the solemn form of swearing.

His godhead I invoke, *by* him I swear. *Dryden*

It is used in forms of adjuring, or obtesting.

Which, O! avert *by* yon ethereal light,

Which I have lost for this eternal night;

Or, if *by* dearer ties you may be won,

By your dead sire, or *by* your living son. *Dryden.*

Now *by* your joys on earth, your hopes in heaven, O spare this great, this good, this aged king! *Id.*

It signifies specification and particularity.

Upbraiding heaven, from whence his lineage came, And cruel calls the gods, and cruel thee, *by* name. *Id.*

By proxy of: noting substitution.

The gods were said to feast with Ethiopians; that is, they were present with them *by* their statues. *Broome.*

In the same direction with

They are also striated, or furrowed, *by* the length, and the sides curiously punched, or pricked. *Grew.*

By, adv.

Near; at a small distance.

And in it lies the god of sleep;

And, snorting *by*

We may descry

The monsters of the deep. *Dryden.*

Beside; passing.

I did hear
The galloping of horse. Who was 't came *by*? *Shakspeare.*

In presence.

The same words in my lady Philoclea's mouth, as from one woman to another, so, as there was no other body *by*, might have had a better grace. *Sidney.*

I'll not be *by* the while; my liege, farewell:

What will become hereof, there's none can tell. *Shakspeare.*

BY AND BY. In a short time.

He overtook Amphialus, who had been staid here, and *by and by* called him to fight with him. *Sidney.*

The noble knight alighted *by and by* From lofty steed, and bad the lady stay, To see what end of fight should him befall that day. *Spenser.*

In the temple; *by and by* with us, These couples shall eternally be knit. *Shakspeare.*

By, n. s. From the preposition. Something not the direct and immediate object of regard.

In this instance, there is, upon the *by*, to be noted, the percolation of the verjuice through the wood. *Bacon.*

So, while my loved revenge is full and high, I'll give you back your kingdom *by the by*. *Dryden.*

By. In composition, implies something out of the direct way, and consequently some obscurity, as a by-road; something irregular, as a by-end; or something collateral, as a by-concernment; or private, as a by-law. This composition is used at pleasure, and will be understood by the examples following.

BY-COFFEEHOUSE, u. s. A coffee-house in an obscure place.

I afterwards entered a *by-coffeehouse*, that stood at the upper end of a narrow lane, where I met with a nonjuror. Addison.

BY-CONCERNMENT, n. s. An affair which is not the main business.

Our plays, besides the main design, have under-plots, or *by-concernments*, or less considerable persons and intrigues, which are carried on with the motion of the main plot. Dryden.

BY-DEPENDENCE, n. s. An appendage; something accidentally depending on another.

These,
And your three motives to the battle, with
I know not how much more, should be demanded;
And all the other *by-dependencies*,
From chance to chance. Shakespeare.

BY-DESIGN, n. s. An incidental purpose.

And if she miss the mouse-trap lines,
They'll serve for other *by-designs*,
And make an artist understand
To copy out her seal or hand;
Or find void places in the paper,
To steal in something to entrap her. Hudibras.

BY-END, n. s. Private interest; secret advantage.

All people that worship for fear, profit, or some other *by-end*, fall within the intendment of this fable. L'Estrange.

BY-GONE, adj. A Scotch word. Past.

Tell him, you're sure

All in Bohemia's well: this satisfaction
The *by-gone* day proclaimed. Shakespeare.

As we have a conceit of motion coming, as well as *by-gone*; so have we of time, which dependeth thereupon. Grew.

BY-INTEREST, n. s. Interest distinct from that of the public.

Various factions and parties, all aiming at *by-interest*, without any sincere regard to the public good. Atterbury.

BY-LAW, n. s.

By-laws are orders made in court-leets, or court-barons, by common assent, for the good of those that make them, farther than the public law binds. Cowell.

There was also a law, to restrain the *by-laws*, and ordinances of corporations. Bacon.

In the beginning of this record is inserted the law or institution; to which are added two *by-laws*, as a comment upon the general law. Addison.

BY-MATTER, n. s. Something incidental.

I knew one that, when he wrote a letter, would put that which was most material into the postscript, as if it had been a *by-matter*. Bacon.

BY-NAME, n. s. A nick-name; name of reproach, or accidental appellation.

Robert, eldest son to the Conqueror, used short hose, and thereupon was *by-named* court-hose, and shewed first the use of them to the English. Camden.

BY-PAST, adj. Past; a term of the Scotch dialect.

Wars, pestilences, and diseases, have not been fewer for these three hundred years *by-past*, than ever they had been since we have had records. Cheyne.

BY-PATH, n. s. A private or obscure path.

Heaven knows, my son,

By what *by-paths*, and indirect crooked ways,
I got this crown. Shakespeare.

BY-RESPECT, n. s. Private end or view.

It may be that some, upon *by-respects*, find somewhat friendly usage in usance, at some of their hands. Carew.

Augustus, who was not altogether so good as he was wise, had some *by-respects* in the enacting of this law; for to do any thing for nothing was not his maxim. Dryden.

BY-ROAD, n. s. An obscure unfrequented path.

Through slippery *by-roads*, dark and deep,
They often climb, and often creep. Swift.

BY-ROOM, n. s. A private room within another.

I pry'thee, do thou stand in some *by-room*, while I question my puny drawer to what end he gave the sugar. Shakespeare.

BY-SPEECH, n. s. An accidental or casual speech, not directly relating to the point.

When they come to allege what word and what law they meant, their common ordinary practice is to quote *by-speeches*, in some historical narration or other, and to use them as if they were written in most exact form of law. Hooker.

BY-STANDER, n. s. A looker on; one unconcerned.

She broke her feathers, and, falling to the ground, was taken up by the *by-standers*. L'Estrange.

The *by-standers* asked him, why he ran away, his bread being weight. Locke.

BY-STREET, n. s. An obscure street.

The broker here his spacious beaver wears,
Upon his brow sit jealousies and cares;
Bent on some mortgage, to avoid reproach,
He seeks *by-streets*, and saves the expensive coach. Gay.

BY-VIEW, n. s. Private self-interested purpose.

No *by-views* of his own shall mislead him.

Atterbury.

BY-WALK, n. s. A private walk; not the main road.

He moves afterwards in *by-walks*, or under-plots, as diversions to the main design, lest it should grow tedious; though they are still naturally joined. Dryden.

BY-WAY, n. s. A private and obscure way.

Night stealths are commonly driven in *by-ways*, and by blind folds, unused of any but such like. Spenser on Ireland.

Other *by-ways* he himself betook,
Where never foot of living wight did tread. Spenser.

This is wonderfully diverting; the understanding, thus to perceive a precept, as it were, through a *by-way*, and to apprehend an idea that draws a whole train after it. Addison.

BY-WEST, adv. Westward; to the west of.

Whereupon grew that *by-word*, used by the Irish, that they dwelt *by-west* the law, which dwelt beyond the river of the Barrow. Davies on Ireland.

BY-WORD, n. s. A saying; a proverb.

Bashful Henry be deposed; whose cowardice Hath made us *by-words* to our enemies. Shakespeare.

BYBLIS, in fabulous history, the daughter of Miletus, who, falling in love with her brother Caurus, killed herself, and was metamorphosed into a fountain.

BYBLUS, in ancient geography, a town of Phenicia, situated between Berytus and Botrys; it was the royal residence of Cinyras, and sacred to Adonis. Pompey delivered it from a tyrant, whom he caused to be beheaded. It stood near the sea, on an eminence, and near it ran the

Adonis into the Mediterranean. It is now in ruins.

BYNG (George), lord viscount Torrington, the son of John Byng, Esq., was born in 1663. At the age of fifteen he went a volunteer to sea with the king's warrant. His early engagement in this course of life gave him little opportunity of acquiring learning, but by his abilities and activity as a naval commander he furnished abundant matter for the pens of others. After being several times advanced, he was, in 1702, raised to the command of the Nassau, a third rate, and was at the taking and burning of the French fleet at Vigo; and in 1703 he was made rear-admiral of the red. In 1704 he served in the grand fleet sent to the Mediterranean under Sir Cloudesly Shovel; and commanded the squadron that attacked, cannonaded, and reduced Gibraltar. He was in the battle of Malaga, and was knighted by queen Anne for his gallant behaviour in that action. In 1705, within two months, he took twelve of the enemy's largest privateers, with the *Thetis*, a French man of war of forty-four guns; and also several merchant ships, most of them richly laden. The prisoners taken on board were 2070, and 334 guns. In 1718 he was made admiral and commander in chief of the fleet; and was sent with a squadron into the Mediterranean for the protection of Italy, against the Spaniards; who had surprised Sardinia, and landed an army in Sicily. In this expedition he despatched captain Walton in the *Canterbury*, with five more ships, in pursuit of six Spanish men of war, with galleys, fire-ships, bomb-vessels, and store-ships, who separated from the main fleet, and stood in for the Sicilian shore. The captain's laconic epistle on this occasion, showed that fighting was his talent as well as his admiral's, and not writing. 'Sir, We have taken and destroyed all the Spanish ships and vessels which were upon the coast, as per margin. *Canterbury*, off Syracuse, I am, &c. G. Walton.' From the account referred to, it appeared that he had taken four Spanish men of war, with a bomb-vessel and a ship laden with arms; and burned four with a fire-ship and bomb-vessel. By his advice and assistance, the Germans retook the city of Messina in 1719, and destroyed the ships that lay in the basin; which completed the ruin of the naval power of Spain. The Spaniards, being much distressed, offered to quit Sicily; but the admiral declared, that the troops should never be suffered to quit the island till the king of Spain had acceded to the quadruple alliance. After performing many signal services, in token of which he received from the emperor his own picture set round with very valuable diamonds, he was made rear-admiral of England and treasurer of the navy, one of the most honorable privy council, baron Byng of Southill in the county of Bedford, viscount Torrington, in Devonshire, and one of the knights companions of the Bath. George II. on his accession to the crown, placed him at the head of the navy, as first lord of the Admiralty; in which high station he died January the 15th, 1733, in the seventieth year of his age, and was buried at Southill in Bedfordshire.

BYNG (John, Esq.), the unfortunate son of the former, was bred to the sea, and rose to the rank of admiral of the blue. He gave many proofs of courage; but was at last shot, upon a dubious sentence for neglect of duty, and to shield an incompetent ministry from popular indignation, in 1757. Shortly after his death, the following inscription was boldly placed by his family on his tomb, in the parish church of Southill:—

To the perpetual disgrace of
Public Justice,
The Honorable John Byng,
Vice Admiral of the Blue,
fell a Martyr to
Political Persecution,
on March the 14th, in the year 1757:
when bravery and loyalty
were insufficient securities
for the Life and Honor
of a Naval Officer.

See GREAT BRITAIN.

BYNNI, in ichthyology, a species of cyprinus, having thirteen rays in the dorsal fin, the third of which is thick and horny; tail linear, and bifid; cirri, four. It is a fish of a silvery color, and oblong oval form, very common in the Nile.

BYROM (John), an ingenious poet of Manchester, born in 1791. His first poetical essay appeared in the *Spectator*. He was admitted a member of the Royal Society in 1724. On taking his degree of master of arts, he went to Montpelier, where he became doctor in physic, and imbibed an extravagant love for the mystic theology of Mallebranche and Bourignon, to which he afterwards added that of Behmen. But reducing himself to narrow circumstances, by a precipitate marriage, he supported his family by teaching a new method of writing shorthand, of his own invention; until an estate devolved to him by the death of an elder brother. He was a man of lively wit, of which he gave many humorous specimens. He died in 1763; and a collection of his Miscellaneous Poems was printed at Manchester, in 2 vols. 8vo. 1773.

BYRON (John), commodore, and grandfather of the late lord Byron, was the second son of William, the fourth lord Byron. He was born at Newstead Abbey, in 1723, and, entering the navy early, held the rank of a midshipman in 1740, when Anson commanded an expedition against the Spaniards, in the South Seas. The vessel to which Byron belonged was wrecked on a desert island, from which, after enduring the greatest hardships, he reached Chiloe, and having been made prisoner by the Spaniards, did not return to England for five years. His narrative of his disasters has always been a popular book. In June, 1764, he again left England in command of an expedition fitted out to make discoveries in the South Sea; and, having circumnavigated the globe, returned home in May, 1766. Many ports and islands were explored in this voyage, which were afterwards visited by Bougainville and Cooke; and experiments were made to determine the accuracy of Harrison's time-keeper. Mr. Byron was subsequently made an admiral, and commanded in the West Indies during the American war. He died in 1768.

B Y R O N.

BYRON (George Gordon), afterwards George Gordon Noel, lord Byron, a late British peer and distinguished poet, was born in Holles Street, London, January 22d, 1788. His father was captain John Byron, of the guards, eldest son of admiral Byron, of whose history we have given a slight sketch; and his mother, a Miss Gordon of Gight, in Scotland, descended according to Mr. Dallas, from the princess Jane Stuart, a daughter of James II., of Scotland, who married the marquis of Huntley. The peerage was given to the family by Charles I.

Lord Byron's immediate predecessor in the title was his father's uncle, William, lord Byron, who after a fatal duel with a relation and neighbour, Mr. Chaworth, felt the public opinion to be so much against his conduct, that he secluded himself at Newstead Abbey from all society, for many years previous to his death. The late lord Byron, who was somewhat prone to similar partialities, told captain Medwin that his uncle devoted himself at this period to the feeding of crickets. 'He had made them so tame as to crawl over him, and used to whip them with a whip of straw if too familiar. When he died, tradition says that they left the house in a body. I suppose I derive my superstition (added his lordship), from this branch of the family.' Lord Byron's father was also too remarkable for his eccentricities and dissipation for us to be chargeable with any indelicacy in alluding to them, or for a fair estimate of his lordship's character to be given without taking them into the account. He was notorious in the circles of fashion as the 'mad Jack Byron', of handsome person, but of so abandoned a character, that to be known as his companion, was an exclusion from decent society. At the age of twenty-six he seduced lady Carmarthen, whom, after her divorce from the marquis, he married, having issue one daughter, Mrs. Leigh: he afterwards eloped with Miss Gordon, and, having nearly dissipated her fortune, separated from her, and died at Valenciennes in 1791. Mrs. Byron had, a short time before this event, retired to Mar Lodge, near Aberdeen, with her infant, the subject of our memoir.

Here she personally conducted his education until he was seven years of age; and the wild scenery of Morven, of Loch-na-Garr, and of the banks of the Dee, became, as he afterwards opined, 'the parents of his poetical vein.' He is said to have remembered the later broils of his father and mother; and to have imbibed an early horror of matrimony from that circumstance. Be this as it may, he became certainly worse than fatherless, at an early age; his passions and affections were not only, as a poetical divine phrases it, his 'first governors,' and 'clearly possessed themselves of his soul before his reason was heard to speak,'—but an indulgent mother was their only director: and with a constitution not robust, and a malformation of one of his feet, he had peculiar claims on her solicitude. So that if generally (as the good bishop says), 'reason

speaks at first so little and so low, that the common noises of faucy and company drown her voice,'—we cannot suppose this voice to have been much heard in lord Byron's youth and childhood. If the honors of his birth afterwards increased his attractions as a poet, he clearly owed but little to it as a man.

In his eighth year he was placed at the grammar school of Aberdeen; and, though little distinguished for constant application, was found capable of considerable efforts of mind. He was still more famous for the love of hardy exercises, than for either; and was indulged with frequent vacations, which he spent in the Highlands, on account of his health. On the whole, he says, he imbibed, at this time, an affection for Scotland, which Scottish Reviewers might afterwards shake, but did not destroy.

In 1798 he succeeded, on the death of his great-uncle, to the title and estates of the family, and was immediately removed, under the guardianship of lord Carlisle, brother-in-law of the late lord Byron, to Harrow. Here he confesses that he ill-brooked the discipline, he could not but approve; and while he imbibed a lasting sense of the head master, Dr. Drury's, kindness (which he commemorates in his *Hours of Idleness*), he submitted with great reluctance to the ordinary discipline of the school. His vacations were at this time spent at Newstead, where, in his thirteenth year he became enamoured of Miss Chaworth, the only daughter and heiress of the gentleman who fell by the hand of his predecessor. The future properties of the youthful pair adjoined; and their meetings, though stolen ones, were frequent. The lady being his senior by some years, the affair soon terminated by her hand being bestowed on a more mature lover; but the disappointment was always described by lord Byron as serious to himself. At Harrow, the duke of Dorset was his fag, and 'I was not,' says he, 'a very hard task master. There were times in which if I had not considered it as a school, I should not have been unhappy at Harrow. There is one spot I should like to see again: I was particularly delighted with the view from the church yard, and used to sit for hours on the stile leading into the fields; even then I formed a wish to be buried there. Of all my schoolfellows, I know no one for whom I have retained so much friendship as for lord Clare; I have been constantly corresponding with him ever since. I knew he was in Italy, and look forward to seeing him, and talking over with him our old Harrow stories, with infinite delight.'

Such was one of his communications to captain Medwin respecting his early life: and we may here observe, that while that gentleman's *Journal of Conversations with lord Byron* has not our absolute credence in all particulars; whatever we find elsewhere confirmed or rendered probable by other accounts, we adopt—and many of the observations he records could not be otherwise than lord Byron's. He related,

in after life, two other striking recollections of Harrow,—that he fought lord Calthorpe there for writing ‘atheist’ under his name; and, in the best spirit of a young aristocrat, prevented the school-room from being burnt, during a rebellion of the boys, by pointing out to them the names of their fathers and grandfathers on the walls. ‘Had I married Miss C —,’ continued lord Byron to captain Medwin, ‘perhaps the whole tenor of my life would have been different. She jilted me, however; but her marriage proved any thing but a happy one. She was at length separated from Mr. M —, and proposed an interview with me, but by the advice of my sister I declined it. I remember meeting her after my return from Greece, but pride had conquered my love; and yet it was not with perfect indifference I saw her.’ He has beautifully alluded to these circumstances in his well-known *Dream*.

At the age of seventeen he was entered at Trinity College, Cambridge, and, as at Harrow, subjected himself to frequent rebukes for his vagaries: he ever entertained, he says, great contempt for academical honors, and, among other proofs of it, trained a bear at college, designing it, as he stated, to take a degree. In 1807 he was himself complimented with the honorary degree of M. A.

He quitted college the same year to take up his residence at Newstead, and printed, at Newark, in December, his first volume of poems. These were given to the world under the title of *Hours of Idleness*, and were criticised with memorable severity in the *Edinburgh Review*. They certainly contain but few traces of the towering genius he afterwards exhibited; but his critics have since made the amende honorable in all but direct terms: they inflicted on him the misery, the ‘rage,’ in which he was first stimulated, to an effect worthy his muse; and their bullying, as he says, far from deterring him from writing, made him but the more ‘bent on falsifying their raven predictions, and determined’ him ‘to show them, croak as they would, it was not the last time they should hear from him.’ He now, therefore, set to work in good earnest, and in the course of the following year produced the *English Bards and Scotch Reviewers*. Lord Byron, in our humble judgment, never composed lines to exceed, in strength and beauty, several that are found in this poem. We cannot multiply specimens, but select the best criticism of the day on *Little*, alias *Moore’s* amorous poems, as expressing all a friendly moralist must often have felt inclined to say to his lordship afterwards.

Grieved to condemn, the muse must still be just,
Nor spare melodious advocates of lust.
Pure is the flame which o’er her altar burns;
From grosser incense with disgust she turns:
Yet kind to youth, this expiation o’er,
She bids thee ‘mend thy line and sin no more.’

And the apostrophe to *Kirke White*, alluding to his death being hastened by his devotion to study:—

So the struck eagle stretch’d upon the plain,
No more through rolling clouds to soar again,

Viewed his own feather on the fatal dart,
And winged the shaft that quivered in his heart.
Keen were his pangs, but keener far to feel—
He nursed the pinion that impelled the steel;
While the same plumage that had warmed his nest
Drank the last life drop from his bleeding breast.

Mr. Dallas gives us an anecdote or two of the passage of this poem through the press, which are worth preserving. The day on which he came of age lord Byron put it into the hands of that gentleman, in London, wishing him to get it published anonymously. It was then entitled the *British Bards*, and the author added 110 lines during the printing of it. Among other alterations he inserted the entire panegyric on *Crabbe*, whose name was at first altogether omitted; and the couplet respecting *Congreve* and *Otway*; changed a censure of Mr. *Smythe* to the highest praise, and a strong commendation originally bestowed on lord *Carlisle’s* poetry into the elaborate condemnation of it which now stands in the poem. It was at first said, that among the peers,

On one alone *Apollo* deigns to smile,
And crowns a new *Roscommon* in *Carlisle*.

Now his poetry is ‘paralytic feeling;’ and ‘no muse will smile upon it.’ The fact is, a violent family quarrel had taken place between the noble bards in the interim. This satire, according to Mr. Dallas, was offered to the most extensive publishing house of the day, Messrs. Longman’s, and refused, on the ground of its asperity: rather, we should apprehend, on account of their well-known connexion with the reviewers, so severely chastised. It is remarkable that the first number of that *Review* itself is also stated to have been thrown aside by another sapient publisher, then living in the *Poultry*, for a similar reason with that Mr. Dallas assigns.

This satire made a deep impression on the public in favor of its author, who was soon known. Just previous to its publication he resolved upon taking his seat in the House of Peers, pro forma; and the two circumstances transpiring together, increased the general eclat which now attended his name. He had written, it seems, to his near relative, lord *Carlisle*, with the desire to procure his introduction to the House: but that nobleman, in a cold reply, merely informed him, technically, of the mode of proceeding: so that he was received in their lordship’s anti-chamber by some of the official persons only; and advanced to the table of the House, as Mr. Dallas informs us, with evident mortification and subdued anger. Here, however, having taken the oaths, he was kindly greeted by the chancellor, who descended from his seat and offered him his hand. ‘Lord Byron made a stiff bow, and gave his lordship the tips of his fingers,’ says Mr. Dallas, ‘in return.’ ‘If I had shaken hands heartily,’ he afterwards said, ‘he would have set me down for one of his party—but I will have nothing to do with any of them on either side: I have taken my seat, and now I will go abroad.’

Unhappily, even at this period, lord Byron had indulged himself in a career of dissipation which seriously injured his fortune. He made, *Don Juan* describe, but too truly, his own case:—

I wish they knew the life of a young noble,

* * * * *

They are young, but know not youth : it is anticipated ;
Handsome, but wasted ; rich without a sou ;
Their vigour in a thousand arms is dissipated ;
Their cash comes from, their wealth goes to, a Jew.

And without a single friend in his own rank of life, an impaired constitution, and a joyless indifference to the world, he commenced his travels in June, 1809, in company with his fellow collegian J. C. Hobhouse, Esq. He, however, at this time resolved, and pledged himself to his mother, never to part with Newstead.

The travellers passed by Lisbon and the southern provinces of Spain up the Mediterranean ; Mr. Hobhouse keeping a journal, but lord Byron reserving himself for his poetical 'pilgrimage.' This has celebrated his residence in Greece and Turkey too fully to render any further details necessary : but one of the principal incidents of the Giaour occurred at this time to himself. A meer accident enabled him to rescue one of the unhappy objects of his amours from the wretched death of being drowned in a sack—for his sake. 'I was taking one of my usual evening rides by the sea-side,' says his lordship, 'when I observed a crowd of people moving down to the shore, and the arms of the soldiers glittering among them. They were not so far off but that I thought I could now and then distinguish a faint and stifled shriek. My curiosity was forcibly excited, and I despatched one of my followers to enquire the cause of the procession. What was my horror to learn that they were carrying an unfortunate girl, sewn up in a sack, to be thrown into the sea ! I did not hesitate as to what was to be done. I knew I could depend upon my faithful Albanians, and rode up to the officer commanding the party, threatening, in case of his refusal to give up his prisoner, that I would adopt means to compel him. He did not like the business he was on, or perhaps the determined look of my body-guard, and consented to accompany me back to the city with the girl, whom I soon discovered to be my Turkish favorite. Suffice it to say that my interference with the chief magistrate, backed by a heavy bribe, saved her ; but it was only on condition that I should break off all intercourse with her, and that she should immediately quit Athens, and be sent to her friends at Thebes. There she died a few days after her arrival of a fever : perhaps of love.'

Lord Byron always exhibited this kind of noble disinterestedness and courage : strange that the certain miseries he was preparing for himself and his companions for the future, should be the only enemies he was too cowardly to deal with now.

Through the same channel, captain Medwin, we receive his lordship's account of one of the severest illnesses he ever had. It curiously illustrates the character of the Albanians. 'They,' he says, 'were devotedly attached to me, and watched me day and night. I am more indebted to a good constitution for having got over this attack than to the drugs of an ignorant Turk, who called himself a physician. He would have been glad to have disowned the name, and re-

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signed his profession too, if he could have escaped from the responsibility of attending me, for my Albanians came the grand seignior over him, and threatened that if I were not entirely recovered at a certain hour, on a certain day, they would take his life ! They are not people to make idle threats, and would have carried them into execution, had any thing happened to me. You may imagine the fright the poor devil of a doctor was in, and I could not help smiling at the ludicrous way in which his fears showed themselves. I believe he was more pleased at my recovery, than either my faithful nurses or myself. I had no intention of dying at that time, but if I had died the same story would have been told of me that was related of colonel Shelbrooke, in America. On the very day my fever was at the highest, a friend of mine declared that he saw me in St. James's Street, and somebody put down my name in the book at the palace, as having enquired after the king's health.'

Lord Byron wrote home occasionally to his mother, during the whole of his absence from England, and gave these letters afterwards to Mr. Dallas, saying 'Some day or other they will be curiosities.' They formed a principal part of the letters which, at the instance of Lord Byron's executors, the court of chancery restrained Mr. Dallas from publishing. This circumstance we cannot but regret, while the mercenary views of Mr. Dallas are but too obvious.

His lordship was in Albania at the height of the late Ali Pacha's prosperity, and was lodged at his palace. When introduced to that chief, the latter remarked that he had heard lord Byron's family was a great one, and should have known him to be a man of rank from the smallness of his ears, his curling hair, and his small white hands : that he begged to be considered as his father during his stay in Albania, and wished to be respectfully remembered to his mother. In going into a ship of war, provided for them by Ali, intending to sail for Patras, the travellers were very near being lost in a gale of wind. They were driven on the coast of Suli ; and there experienced the most disinterested hospitality. After having been lodged and refreshed with his suite, consisting of his servant Fletcher, a Greek, two Athenians, a Greek priest, and Mr. Hobhouse, lord Byron offered the chief of the Suliote village money ; but he refused any remuneration, and only asked for a written acknowledgment that he had treated the strangers well. 'I wish you to love me,' he said, 'not to pay me.' It was while his frigate was at anchor in the Dardanelles, that lord Byron swam from Sestos to Abydos : an exploit on which he much prided himself.

He returned to England in July, 1811, having never heard but once from his man of business during his travels, and this was, it seems, to propose the sale of Newstead Abbey. Lord Byron, however, sent home Fletcher, with his determination not to do this ; but rather to sacrifice his Rochdale or Yorkshire property. If Newstead remained, he said, he should come back to England, if not he never should.

On his return he had so far cooled in his re-

sentiment toward the objects of his attack in the English Bards and Scotch Reviewers as to be fully prepared to withdraw that poem from circulation. It is singular that the principal part of them became afterwards his personal friends. Even from 'hoarse Fitzgerald,' he accepted complimentary verses. The piece passed rapidly through four editions, and was then suppressed, 'as far as in him lay.' He brought home with him a second satire, however, which he called *Hints from Horace*, and from which Mr. Dallas, in his *Recollections*, gives a considerable extract. One remarkable couplet, like many parts of his poems, reflects singularly on himself.

Satiric rhymes first sprang from selfish spleen,
You doubt—see Dryden, Pope, St. Patrick's dean.

In this piece also he renews the expressions of his marked contempt for the poet-laureat's productions:

Whose Epic mountains never fail in mice.

But Mr. Dallas exercised a sound judgment in persuading him to publish, in preference to this poem, the first and second cantos of his *Childe Harold*, which he also had in great part prepared; and to that gentleman must certainly be awarded the merit of having considerably assisted their final touching.

His lordship had imbibed at Cambridge a strong tendency to infidel, if not to atheistical sentiments. This was checked, however, at that period, by the premature death of one of the boldest advocates for infidelity, his particular friend; all intellect and energy, it would appear, like himself. It staggered him, he confessed, that such powers should be for ever lost; that such a mind should be gathered into the corruption, that so speedily awaited the body. And thus the good,

The lingering light unwilling to depart,

struggled with the bad and cheerless system of too many of his associates for years. Throughout his life, indeed, he seems to wish himself to be considered a desponding rather than a contemptuous sceptic. Mr. Dallas induced him at this time to modify what he would not suppress of his sceptical opinions, and procured the substitution of the beautiful stanza, beginning,

Yet if, as holiest men have deemed, there be
A land of souls beyond that sable shore,

For this

Frown not upon me churlish priest! that I
Look not for life, where life may never be;
I am no sneerer at thy phantasy;
Thou pitiest me,—alas! I envy thee,
Thou bold discoverer in an unknown sea,
Of happy isles and happier tenants there;
I ask thee not to prove a Sadducee,
Still dream of Paradise, thou knowest not where,
But lovest too well to bid thine erring brother share.

And, as an apology for these sentiments generally, he had proposed to insert the following remarkable note: 'In this age of bigotry, when the puritan and priest have changed places, and the wretched Catholic is visited with the 'sins of his fathers,' even unto generations far beyond the pale of the commandment, the cast of

opinion in these stanzas will doubtless meet with many a contemptuous anathema. But let it be remembered, that the spirit they breathe is desponding, not sneering, scepticism; that he who has seen the Greek and Moslem superstitions contending for mastery over the former shrines of polytheism; who has left in his own country Pharisees, thanking God that they are not like publicans and sinners, and Spaniards in theirs, abhorring the heretics, who have helped them in their need; will be not a little bewildered, and begin to think, that as only one of them can be right, they may most of them be wrong. With regard to morals, and the effect of religion on mankind, it appears, from all historical testimony, to have had less effect in making them love their neighbours, than inducing that cordial Christian abhorrence between sectaries and schismatics. The Turks and Quakers are the most tolerant; if an infidel pays his heretich to the former, he may pray how, when, and where he pleases; and the mild tenets and devout demeanor of the latter, make their lives the truest commentary on the sermon of the mount.'

Mr. Dallas also induced him to suppress three additional stanzas of censure on the memorable convention of Cintra. One part of the description of the arrival of the news of that treaty being signed we cannot omit. It is not in his printed works, and we know no equal description of the principal personage.

Pens, tongues, feet, hands, combined in wild uproar;
Mayor, aldermen, laid down the 'ub' uplifted fork;
The bench of bishops half forgot to snore;
Stern COBBETT, who for one whole week forbore
To question aught, once more with transport leap't,
And bit his devilish quill agen, and swore
With foe such treaty never should be kept,
Then burst the blatant beast, and roared, and raged,
and—slept!!!

However Lord Byron might shrink from his own image when drawn with such truth and force, the world has ever since considered him, in point of fact, the hero of the *Childe Harold*. It supplies all the main points of his character, and that large portion of the actual events of his life which his own genius alone could have grouped in this way. On its publication he was at once highly popular, his relations became friends, his enemies friendly; while the critics trembled and adored. None were more lavish of their commendations than those northern sages, who in the first instance had so unsparingly chastised the young poet. In the winter of 1812, he was the object of universal curiosity and attraction. Various eminent persons courted an introduction to him, some are said even to have volunteered their cards. He happened to go early into one fashionable party, into which the Prince Regent came shortly afterwards, and sent a gentleman to him to desire he would be presented. The presentation of course followed; Lord Byron ever after spoke of it with pleasure: the prince did him the honor to say, that he hoped soon to see the author of *Childe Harold* at Carlton house. In consequence of this, Mr. Dallas tells us, he found his lordship on the next appointed levee day, in a full dress-suit, and just ready to start

for the court, when the levee was suddenly put off. 'It was the first and last time he was ever so dressed for a British court.' But his poem travelled all over the kingdom with the greatest rapidity; its first impression being taken off in three days. Among the abundant testimonies of applause and respect, he valued none more than a letter he now received from Dr. E. D. Clarke, the traveller, who declares, with all his characteristic ardor, and passionately fond as he had been of poetry from his youth, 'I was never so much affected by any poem before.' The intended new Satire was now entirely suppressed; together with a similar production, the *Curse of Minerva*, written on some modern spoiliations of Greece.

Newstead Abbey, after all, was brought to the hammer at Garraway's, in the autumn of 1812. It was at first bought in, then sold to a Mr. Cloughton, for the sum of £140,000, but the purchaser could not complete his bargain: it finally was disposed of some time in 1815.

After this, becoming satiated with the hollow praises and pleasures of a fashionable life, he applied himself once more to composition. Mr. Gifford had sent to him, we are told (*Dallas's Recollections*, p. 286), calling upon him not to give up his time to light compositions, 'as he had genius to send him to the latest posterity with Milton and Spenser.' Meanwhile he had written the *Giaour*, and the *Bride of Abydos*, which sold prodigiously. In December, Mr. D. found him composing the *Corsair*, which he presented to that gentleman on new year's day, 1814: giving him the copy-right of this, as of all his previous poems. At the end was inserted the 'Stanzas to a Lady Weeping,' which his lordship's more intimate friends assert to have been composed long before his interview with the prince. However this may be, it is supposed to have given great personal offence in a certain high quarter.

In May he commenced his *Lara*, and finished it 24th June. The *Siege of Coriuth* made its appearance almost immediately after.

We should have noticed, perhaps earlier, his maiden speech in the House of Lords. This was delivered, February, 1812, against the Nottingham frame-work bill. He took great pains in its composition, and is said to have delivered it with considerable energy: he once more addressed the House in favor of Catholic emancipation, as it is termed, and a third and last time, when he presented a petition of Major Cartwright's, on reform. But if he had nerve, he had not steadiness enough for a political life in England. He seems always to have felt it was not his *forté*, and says he could never have adhered to any party. The late Lord Londonderry, he told Captain Medwin, however, was the only public character which he ever 'detested.'

In January, 1815, he obtained the hand of Miss Anna Isabella Milbanke, daughter of Sir Ralph Milbanke Noel, Bart. having proposed himself as a suitor a year before, and been rejected. The marriage was an unhappy one. Lord Byron with all his scepticism was superstitious; he remarked to Mr. Moore, on his first

introduction to the lady, that he stumbled going up stairs, and the omen was bad. The fortune he received with this lady was not, as it has been stated, very large, and his own having been at this time much reduced, his lavish expenditure could be sustained but for a few months. He was soon beset by importunate creditors; the bailiffs entered his house within the first year of their marriage, and lady Byron, after giving birth to a daughter, December 10th, returned to her father's. The baronet wrote at first to announce her determination not to return: lord Byron refused, very properly, to credit this; the resolution, however, was shortly after avowed by her ladyship; and a final separation took place. Its merits and demerits seem to have been a considerable topic in the suppressed '*Memoirs*' of his lordship; at least so he is reported to have told captain Medwin, and that he forwarded the narrative for lady Byron's sanction. This she refused to give; and the public has been supplied with nothing further respecting this event. Lord Byron said 'I have prejudices about women. I do not like to see them eat. Rousseau makes *Julie un peu gourmande*; but that is not at all according to my taste. I do not like to be interrupted when I am writing. Lady Byron did not attend to these whims of mine. The only harsh thing I ever remember saying to her, was one evening, shortly before our parting. I was standing before the fire, ruminating upon the embarrassment of my affairs, and other annoyances, when lady Byron came up to me, and said 'Byron, am I in your way?' to which I replied 'damnable!' I was afterwards sorry, and reproached myself for the expression; but it escaped me unconsciously, involuntarily; I hardly knew what I said.'

He now left England, expressing his resolution not to return, and crossed over to France, through which he passed to Brussels, taking the field of Waterloo on his way. Hence he proceeded to the banks of the Rhine, Switzerland, and the north of Italy; and resided for some time at Venice, where Mr. Hobhouse joined him, and they together started for Rome, where he completed the third canto of *Childe Harold*. In 1816 appeared the *Prisoner of Chillon*, a *Dream*, and other poems; and in 1817 *Manfred*, a tragedy, and the *Lament of Tasso*. In his excursions at this time from Italy, we find him taking up his abode for some time at Abydos; whence he proceeded to Tenedos and the island of Scio, where he staid three months, during which time he explored every classical scene, and all the celebrated islands. At length he reached Athens, where, in 1818, he sketched the fourth and last canto of *Childe Harold*. In this year was also published the *jeu d'esprit* of Beppo, and in 1819 the romantic tale *Mazeppa*.

This year also he forwarded to England the commencement of his *Don Juan*, to which Mr. Murray his bookseller, refused to put his name. The performance as a whole is generally considered as a degradation to lord Byron's genius; while unquestionable traces of it appear in various parts. Some of his friends attempt to defend it as an improvement on the looser Italian models which he professes to follow. He him-

self dignified it when about half written with the name of an epic, and complained loudly of the conduct of his publisher. It assuredly is in this country the dead weight of his poetical fame. In 1820 he sent home Marino Faliero, Doge of Venice, a tragedy, having only as designed for the stage, the equivocal recommendation of a close attention to the dramatic unities. It was a failure: lord Byron afterwards affirmed that it never was offered to the theatre with his approbation; but was evidently mortified at its being considered that he could not succeed in this species of composition. Shortly after he addressed a letter to the Rev. W. L. Bowles, on the poetical character of Pope, which he considers to have been unfairly depreciated in that writer's *Life of the Poet*. In the same year, 1820, appeared the *Drama of Sardanapalus*, the best of his tragic productions; *The Two Foscari*, a tragedy; and *Cain*, a Mystery. Lord Byron, on being much censured for the speeches given to Lucifer and Cain, in this piece, defended himself by the example of Milton, and asked how the first rebel and the first murderer ought to be made to speak? It is a poem displaying great occasional energy; but Mr. Hobhouse called it bombastical, and considered the publication of it disgraceful, we are told. (*Medwin's Conversations*, p. 187) Lord Byron characterised it as the finest thing he ever wrote. His gravest and best defence is addressed to his bookseller. 'If Cain be blasphemous, *Paradise Lost* is blasphemous; and the words of that Oxford gentleman, 'evil be thou my good,' are from that very poem, from the mouth of Satan,—and is there any thing more in that of Lucifer, in the *Mystery*? Cain is nothing more than a drama, not a piece of argument. If Lucifer and Cain speak as the first rebel and the first murderer may be supposed to speak, nearly all the rest of the personages talk also according to their characters; and the stronger passions have been permitted to the drama. I have avoided introducing the Deity as in Scripture, though Milton does, and not very wisely either; but have adopted his angel as sent to Cain instead, on purpose to avoid shocking the feelings on the subject, by falling short of what all uninspired men must fall short in, viz. giving an adequate notion of the effect of the presence of Jehovah. The old Mysteries introduced Him liberally enough, and all this I avoided in the new one.'

Lord Byron clearly forgets in all this that Milton's Satan is never suffered to make the worse appear at last the better cause: and that the whole weight of his own personal character and habits were well known to be (speaking charitably) not on the same side of the balance with those of the great poet of the commonwealth. Our poet quitted Venice for Pisa in 1821. What will our fair readers say to the following sentiments imputed to him by Captain Medwin. 'I wrote little at Venice, and was forced into the search of pleasure,—an employment I was soon jaded with the pursuit of. Women were there, as they have ever been fated to be, my bane; like Napoleon, I have always had a great contempt for women; and formed this opinion of them not hastily, but from my own fatal experience.

My writings, indeed, tend to exalt the sex; and my imagination has always delighted in giving them a *beau ideal* likeness, but I only drew them as a painter or statuary would do, as they should be; perhaps my prejudices, and keeping them at a distance, contributed to prevent the illusion from altogether being worn out and destroyed as to their celestial qualities. They are in an unnatural state of society. The Turks and eastern people manage these matters better than we do. They lock them up, and they are much happier. Give a woman a looking-glass and a few sugar-plumbs, and she will be satisfied. I have suffered from the other sex ever since I remember anything. I began by being jilted, and ended by being unloved. Those are the wisest who make no connexions of wife or mistress.'

At this his last place of residence in Italy, he became acquainted with the Gamba family; and formed at the house of her father no equivocal acquaintance with the countess Guiccioli, a lady who at twenty years of age had married a husband of sixty; who tolerated the connexion with his lordship. The lady was of course all attraction, and lord Byron longer devoted to her, we believe than to any other of his connexions of this kind: but from such fathers—matches—husbands—and lovers, may our native land at least be long preserved! Mr. Leigh Hunt, who had been invited out to Italy with his family, joined him at Pisa in 1822, and with this writer, in conjunction with Mr. Percy Bysshe Shelley, the publication called *The Liberal*, was commenced, which owing to the unhappy fate of Mr. Shelley (who perished by the upsetting of a boat in the Mediterranean), extended only to four numbers. In this periodical work appeared the celebrated *Vision of Judgment*, caused by a performance of the same foolish title, written by Mr. Southey. Our opinion of these performances approaches that of an orator, (the Rev. Mr. Irving), who has on some occasions no small share of the true poetic feeling. He says, 'with the one blasphemy is virtue when it makes for loyalty; with the other blasphemy is the food and spice of jest-making.—I know not whether the self confident tone of the one, or the ill-placed merriment of the other, displeaseth me the more. It is ignoble and impious to rob the sublimest of subjects of all its grandeur and effect, in order to serve wretched interests and vulgar passions.' Heaven and Earth, a mystery, first appeared also in the *Liberal*. It is founded on the alleged intercourse between angels and the daughters of men before the flood. *Werner*, a tragedy; the *Deformed Transformed*, a drama; and the last cantos of *Don Juan*, complete the list of lord Byron's works, all of which he finished prior to the autumn of 1822. *Don Juan* we exclude from all consideration as a work of lord Byron: it is unworthy of him. But the *March on Rome* of the *Deformed Transformed* is worthy of his best days. We can only find space for the first two stanzas, and the concluding one.—

I.

'Tis the morn, but dim and dark.
Whither flies the silent lark?
Whither shrinks the clouded sun?
Is the day indeed begun?

Nature's eye is melancholy
O'er the city high and holy :
But without there is a din
Should arouse the Saints within,
And revive the heroic ashes
Round which yellow Tiber dashes.
Oh ye seven hills ! awaken,
Ere your very base be shaken !

2.

Hearken to the steady stamp !
Mars is in their very tramp !
Not a step is out of tune !
As the tides obey the moon,
On they march, though to self-slaughter,
Regular as rolling water,
Whose high waves o'ersweep the border
Of huge moles, but keep their order,
Breaking only rank by rank.
Hearken to the armour's clank !
Look down o'er each frowning warrior,
How he glares upon the barrier :
Look on each step of each ladder,
As the stripes that streak an adder.

8.

Yet once more, ye old Penates !
Let not your quenched hearths be Ate's !
Yet again ye shadowy heroes,
Yield not to these stranger Neros !
Though the son who slew his mother,
Shed Rome's blood, he was your brother :
'Twas the Roman curbed the Roman ;—
Brennus was the baffled foe-man.
Yet again ye Saints and Martyrs,
Rise ! for yours are holier charters.
Mighty gods of temples falling,
Yet in ruin still appalling !
Mightier founders of those altars,
True, and Christian,—strike the assaulters !
Tyber ! Tyber ! let thy torrent
Show even nature's self abhorrent.
Let each breathing heart dilated
Turn, as doth the lion baited !
Rome be crushed to one wide tomb,
But be still the Roman's Rome !

Lord Byron quitted Pisa in the autumn of 1822, and wintered at Genoa. The motives which induced him to leave Italy and join the Greeks, struggling for emancipation from the yoke of their ignorant and cruel oppressors, are the most creditable, upon the whole, of any which ever swayed his wayward mind. It was in Greece that his high poetical faculties had been first most powerfully developed ; and they who know the delight attendant, even in a very inferior degree, upon this process, will know how to appreciate the tender associations which cling to the scenes and the persons that have first stimulated their genius. 'Greece, a land of the most venerable and illustrious history, of a peculiarly grand and beautiful scenery, inhabited by various races, of the most wild and picturesque manners, was to him the land of excitement, never cloying—never wearying, ever changing excitement.' 'Such,' continues an able contemporary writer, 'must necessarily have been the chosen and favorite spot of a man of powerful and original intellect, of quick and sensible feelings, of a restless and untameable spirit, of warm affections, of various information, and,

above all, of one satiated and disgusted with the formality, hypocrisy, and sameness of daily life. Dwelling upon that country, as it is clear from all lord Byron's writings he did, with the fondest solicitude, and being, as he was well known to be, an ardent though perhaps not a very systematic lover of freedom, we may be certain that he was no unconcerned spectator of its recent revolution : and as soon as it appeared to him that his presence might be useful, he prepared to visit once more the shores of Greece.'

On his thirty-sixth birth-day, he thus apostrophises himself :

If thou regret thy youth, why live ?
The land of honorable death
Is here—Up to the field and give
Away thy breath—
Awake not Greece—She is awake,
Awake my spirit !—

Lord Byron embarked at Leghorn and arrived in Cephalonia in the early part of August 1823, attended by a suite of six or seven friends in an English vessel (the *Hercules*, captain Scott), which he had hired for the purpose of taking him to Greece. His lordship had never seen any of the volcanic mountains, and for this purpose the vessel deviated from its regular course in order to pass the island of Stromboli. The vessel lay off this place a whole night in the hopes of witnessing the usual phenomena, when, for the first time within the memory of man, the volcano emitted no fire, and the disappointed poet was obliged to proceed, in no good humor with the forge of Vulcan. We abridge the Narrative of a Friend of Greece for the sequel.

'It was a point of importance to determine on the particular part of Greece to which his lordship should direct his course—the country was afflicted by intestine divisions, and lord Byron thought that if he wished to serve it, he must keep aloof from faction. The different parties had their respective seats of influence, and to choose a residence, if not in fact, was in appearance, to choose a party. In a country where communication is impeded by natural obstacles and unassisted by civilised regulations, which had scarcely succeeded in expelling a barbarian master, and where the clashing interests of contending factions often make it advantageous to conceal the truth, the extreme difficulty of procuring accurate information may be easily supposed. It, therefore, became necessary to make some stay in a place which might serve as a convenient post of observation, and from which assistance could be rendered where it appeared to be most needed. Cephalonia was fixed upon ; where lord Byron was extremely well received by the English civil and military authorities, who, generally speaking, seemed well inclined to further the objects of his visit to Greece. Anxious, however, to avoid involving the government of the island in any difficulty respecting himself, or for some other cause, he remained on board the vessel until further intelligence could be procured.

'When lord Byron arrived in the Ionian Islands, Greece, though even then an intelligent observer could scarcely entertain a doubt of her ultimate

success, was in a most unsettled state. The third campaign had commenced, and had already been marked by several instances of distinguished success. Odysseus and Niketas had effectually harassed and dispersed the two armies of Yusuf Pasha, and Mustapha Pasha, who had entered Eastern Greece, by the passes of Thermopylæ. Corinth, still held by the Turks, was reduced to the greatest extremities—and, indeed, surrendered in the course of the autumn. The Morea might also be said to be thoroughly emancipated. Patras, Modon, and Coron, and the castle of the Morea, did then and still hold out against the combined assaults of famine and the troops of the besiegers. But the ancient Peloponnesus had, at this moment, more to fear from the dissensions of its chiefs, than the efforts of the enemy—they had absolutely assumed something like the character of a civil war. The generals had been ordered on different services, when it appeared, that the funds destined for the maintenance of their armies were already consumed in satisfying old demands for arrears. Much confusion arose, and a bloody conflict actually took place in the streets of Tripolitza, between a troop of Spartiates and another of Arcadians, the followers of rival leaders. The military chiefs, at the head of whom was the able but avaricious Colocotronis, at that time vice-president of the executive government, were jealous of the party which may be termed the civil faction. Over this party presided Mavrocordatos, who, as a Constantinopolitan, was considered as a foreigner, and who, on account of his being a dexterous diplomatist, a good letter-writer, and a lover of intrigue, was regarded with feelings of jealousy and hatred by the rude and iron-handed generals of the Morea. Mavrocordatos was secretary to foreign affairs, and was accused of holding correspondence with foreign courts without the knowledge of the government, and of aiming at getting himself elected the president of the legislative body. It turned out that the actual president fled from the seat of government, and that Mavrocordatos was elected into the office. He too was soon obliged to retreat, and had just resigned the office and retired to the island of Hydra, where the civil and commercial party was strong, and where he was held in considerable estimation, when lord Byron arrived at Cephalonia.

Western Greece too was in a very critical situation—Mustapha, Pasha of Scutari, was advancing on Acarnania in large force, and was on the point of being resisted by the chivalrous devotion of the brave Marco Botzaris. This chief, worthy of the best days of Greece, succeeded on the 9th of August (O. S.) by his famous night attack, in cutting off a considerable part of the Turkish army, and fell a sacrifice to his generous efforts. In spite of this check, however, the Pasha advanced and proceeded towards Anatolicon and Messolonghi; the latter place was invested by Mustapha, and the Albanian chief, Omer-Vrionis, by the early part of October. The Turkish fleet had arrived in the waters of Patras about the middle of June, and continued to blockade (at least nominally) Messolonghi, and all the other ports of Western Greece up to

the arrival of lord Byron. Previous to Marco Botzaris's arrival at Carpenissi, the little village where he discomfited the Turks, he had heard of lord Byron's arrival in Greece, and it is not a little remarkable that the last act he did before proceeding to the attack, was to write a warm invitation to his lordship to come to Messolonghi, offering to leave the army, and to give him a public reception in a manner suitable to the occasion and serviceable to the cause.

‘Almost the first act of lord Byron in Greece, was the arming and provisioning of forty Suliotes, whom he sent to join in the defence of Messolonghi. After the battle he transmitted bandages and medicines, of which he had brought a large store from Italy, and pecuniary succour to those who had been wounded in the battle. He had already made an offer to the government, to which he himself alludes, as well as to the dissensions in Greece, in a letter of which this is an extract. ‘I offered to advance a thousand dollars a month for the succour of Messolonghi, and the Suliotes under Botzaris (since killed), but the government have answered me through ——— of this Island, that they wish to confer with me previously, which is in fact, saying they wish me to expend my money in some other direction. I will take care that it is for the public cause, otherwise I will not advance a para—the opposition say they want to cajole me, and the party in power say the others wish to seduce me, so between the two I have a difficult part to play; however, I will have nothing to do with the factions unless to reconcile them if possible——’ Though solicited in the most flattering manner by count Metaxa, the Exarch of Messolonghi, and others, to repair to that place, lord Byron had too reasonable a fear of falling into the hands of a party to take a decided step in his present state of information. He determined to communicate alone with the established government; for this purpose he despatched two of his friends, Mr. Trelawny and Mr. Hamilton Browne, in order to deliver a letter from him to the government, and to collect intelligence respecting the real state of things. The extreme want of money which was at that time felt in Greece, and the knowledge that lord Byron had brought large funds with the intention of devoting them to the cause, made all parties extremely eager for his presence. He, however, yielded to none of the pressing entreaties that were made to him, but after waiting undecided six weeks in his vessel, he took up his residence on shore, at the village of Metaxata within five or six miles of Argostoli.

Here he resumed his usual occupations, while he kept a watchful eye on all the transactions of Greece, and carried on a very active intercourse with every part of it. Those who know lord Byron's character, know that he rarely resisted the impulse of his feeling, and that these impulses were often of the most benevolent kind. As usual, the neighbourhood of his residence never ceased to experience some kind and munificent exertion of his unfeeling, but by no means indiscriminate or ill-applied, generosity. His physician says, that the day seemed sad and

gloomy to him, when he had not employed himself in some generous exertion. He provided even in Greece for many Italian families in distress, and indulged the people of the country even in paying for the religious ceremonies which they deemed essential to their success. Our informant mentions one circumstance in particular, which affords some idea of the way in which he loved to be of service. While at Metaxata the fall of a large mass of earth had buried some persons alive. He heard of the accident while at dinner, and starting up from the table, ran to the spot, accompanied by the physician, who took with him a supply of medicines. The laborers who were engaged in digging out their companions, soon became alarmed for themselves, and refused to go on, saying, they believed they had dug out all the bodies which had been covered by the ruins. Lord Byron endeavoured to induce them to continue their exertions, but finding menaces in vain, he seized a spade and began to dig most zealously: at length the peasantry joined him, and they succeeded in saving two more persons from certain death.

The friends whom lord Byron had despatched to the government proceeded to the Morea, and crossed the country to Tripolitza, from which place it appeared, that the two assemblies had removed to Salamis. At Tripolitza, however, they had an opportunity of seeing Colocotronis, some of the other distinguished chiefs, as well as the confidential officers of Mavrocordatos' suite, whom he had left behind him in his precipitate retreat from the chair of the legislative assembly, and, consequently, they were able to collect a considerable quantity of information, and procure answers to the questions with which lord Byron had charged them. After doing this, they proceeded to the place where the assembly was collecting. His queries were of a very searching and judicious nature, and the answers obtained were complete enough to afford a very accurate idea of the state, resources, and intentions of the country.

The congress met at Salamis to deliberate on the most important questions, the form of the government, and the measures of the future campaign. The legislative assembly consisted of fifty, and the executive of five. They received the agents of lord Byron in the most friendly manner, and opened every thing to them without reserve; and enabled them to convey to him a very instructive account of the real state of affairs. Ulysses Odysseus, a brave and dexterous mountain chief, of great power and consummate military skill at that time, and still in command of Athens, was about to lead 5000 Albanians into Negropont, whither Mr. Trelawny agreed to accompany him as his aide-de-camp, being promised any number of men he chose under his command. Colocotronis and his son, a fine, spirited young man, with all their forces were to undertake the siege of Patras. Tombasi, the admiral of Hydra, was in command at Candia, where active warfare was expected. Staicos was to remain at Corinth, which surrendered in October, very soon after the congress. Marco Botzari's brother, with his Suliotes, and Mavrocordatos, were to take charge of Messolonghi,

which at that time, October 1823, was in a very critical state, being blockaded both by land and sea.' Mavrocordatos at this time was endeavouring to collect a fleet for the relief of Messolonghi.

Lord Byron's intentions at the same period appear from the following extracts:—'It is my intention to proceed by sea to Nauplia di Romania, as soon as I have managed this business. I mean the advance of the 400 000 piastres for the fleet. My time here has not been entirely lost; indeed, you will perceive by some former documents, that any advantage from my then proceeding to the Morea was doubtful. We have at last named the deputies, and I have written a strong remonstrance on their divisions to Mavrocordatos, which I understand was forwarded to the legislative body by the prince.' He did not, however, depart for the seat of government at the time he had expected, and conceived it necessary to address the authorities again on the subject of their dissensions. The following is a translation of the concluding part of this very admirable letter:—

'Allow me to add once for all, I desire the well-being of Greece and nothing else; I will do all I can to secure it; but I cannot consent, I never will consent, to the English public, or English individuals, being deceived as to the real state of Greek affairs. The rest, gentlemen, depends on you; you have fought gloriously; act honorably towards your fellow-citizens and towards the world, and then it will no more be said, as has been repeated for 2000 years with the Roman historian, that Philopœmen was the last of the Grecians. Let not calumny itself (and it is difficult to guard against it in so difficult a struggle) compare the Turkish pasha with the patriot Greek in peace, after you have exterminated him in war.

'30th November, 1823.

N. B.'

In another letter, written a few days after this, we find a circumstance mentioned which turned his views from the Morea to Western Greece. It must be remembered that the Suliotes were his old favorites, and that their late bravery had raised them still higher in his estimation. 'The Suliotes, now in Acarnania, are very anxious that I should take them under my direction, and go over and put things to rights in the Morea, which, without a force seems impracticable, and really though very reluctant, as my letters will have shown you, to take such a measure, there seems hardly any milder remedy. However, I will not do any thing rashly, and have only continued here so long in the hope of seeing things reconciled, and have done all in my power therefore. Had I gone sooner they would have forced me into one party or the other, and I doubt as much now. But we will do our best. December 7th, 1823.' 'I am convinced if they (the Greeks) succeed in getting the loan, the liberty of Greece will be definitively founded on a firm basis. True, there is much difference of opinion existing amongst the people in authority here, as well as in every other country, and some little squabbling for place and power, but they all unite against the common enemy. Love of liberty and execra-

tion of their barbarous oppressors actuate them. What they want, to ensure success and consolidate the government, is money—money—money.'

Lord Byron continues to allude to these unfortunate differences, and is pleasant upon the gasconading which distinguishes the Greek of this day as it did the Greek of the age of Cleon. 'C—— will tell you the recent special interposition of the gods in behalf of the Greeks, who seem to have no enemies in heaven or earth to be dreaded but their own tendency to discord among themselves. But these too, it is to be hoped, will be mitigated, and then we can take the field on the offensive; instead of being reduced to the 'petite guerre' of defending the same fortresses year after year, and taking a few ships, and starving out a castle, and making more fuss about them than Alexander in his cups or Buonaparte in a bulletin. Our friends have done something in the way of the Spartans, but they have not inherited their style. December 10th, 1823.' Soon after the date of this letter the long desired squadron arrived in the waters of Messolonghi, and in a letter written three days after the date of the last, December 13th, his lordship says that 'he momentarily expects advices from prince Mavrocordatos, who is on board, and has, I understand, despatches from the legislative to me; in consequence of which, after paying the squadron, I shall probably join him at sea or on shore.'

He speaks afterwards of the supplies, with some pleasantry, and concludes a letter to his banker, in Cephalonia, thus: 'I hope things here will go well, some time or other; I will stick by the cause as long as a cause exists, first or second.' His lordship had by this time yielded to the solicitations of Mavrocordatos, who repeatedly urged him in the most pressing manner to cross over to Messolonghi, and who offered to send, and did send, ship after ship to Cephalonia, to bring him over. He seems to have been chiefly delayed by the difficulty in procuring money for his Italian bills. When the supplies were procured, and his other preparations made for departure, two Ionian vessels were hired, and embarking his horses and effects, his lordship sailed from Argostoli on the 29th of December. Anchoring at Zante the same evening, the whole of the following day was occupied in making his pecuniary arrangements with Mr. —; and, after receiving a quantity of specie on board, he proceeded towards Messolonghi. But count Gamba had been charged with the vessel in which the horses and part of the money were embarked; and when off Chiarenza, a point which lies between Zante and the place of their destination, they were surprised at day-light on finding themselves under the bows of a Turkish frigate. Owing, however, to the activity displayed on board lord Byron's vessel, and her superior sailing, she escaped, while the second was fired at, brought to, and carried into Patras; but Yusuff Pasha released the vessel.

The wind becoming contrary, Lord Byron's vessel took shelter at Dagromestre, where Prince Mavrocordatos despatched a gun-boat to accompany him, while a portion of the Greek squadron stationed at Messolonghi, were ordered to cruise in the offing. The vessel afterwards grounded

on a shoal near the Serofes, and was with difficulty got off.

Lord Byron was received at Messolonghi with the most enthusiastic demonstrations of joy. The ships anchored off the fortress fired a salute as he passed. Prince Mavrocordatos and all the authorities, with all the troops and the population collected together, met him on his landing and accompanied him to the house which had been prepared for him, amidst the shouts of the multitude and the discharge of cannon. Nothing could exceed the eagerness with which he had been expected, except the satisfaction which was displayed on his arrival.

One of the first objects to which Lord Byron naturally turned his attention was, to mitigate the ferocity with which the war had been carried on. He had not been long at Messolonghi, before an opportunity presented itself for showing his sense of Yusuff Pasha's moderation in releasing Count Gamba. Hearing that there were four Turkish prisoners in the town, he requested that Prince Mavrocordatos would place them in his hands; this being immediately granted, they were sent to the castle of the Morea, near Patras, with the following letter addressed to the Turkish chief.

'Highness,—A vessel in which a friend and some domestics of mine were embarked, was detained a few days ago and released by order of your highness. I have now to thank you, not for liberating the vessel, which as carrying a neutral flag, and being under British protection, no one had a right to detain, but for having treated my friends with so much kindness while they were in your hands.

'In the hope, therefore, that it may not be altogether displeasing to your highness, I have requested the governor of this place to release four Turkish prisoners, and he has humanely consented to do so. I lose no time, therefore, in sending them back, in order to make as early a return as I could for your courtesy on a late occasion. These prisoners are liberated without any conditions; but, should the circumstance find a place in your recollection, I venture to beg, that your highness will treat such Greeks as may henceforth fall into your hands with humanity, more especially since the horrors of war are sufficiently great in themselves, without being aggravated by wanton cruelties on either side.

'NOEL BYRON.

'Messolonghi, 23rd Janury, 1824.'

Another grand object with Lord Byron, and one which he never ceased to forward with the most anxious solicitude, was to reconcile the quarrels of the native chiefs, to make them friendly and confiding to one another, and submissive to the orders of the government. He had neither time nor much opportunity before his decease to carry this point to any great extent.

Mavrocordatos had dwelt on the importance of his lordship's presence at Messolonghi. Accordingly Lord Byron landed at Messolonghi, animated with military ardor. Five hundred Suliot, the bravest and most resolute of the soldiers of Greece, were taken into his pay on the 1st of January, 1824; an object worthy of them and their leader was not difficult to be

found, in the castle of Lepanto, which commands the gulf of that name, the only fortress occupied by the Turks in Western Greece. Its position at the mouth of the gulf, is one of great importance, and enables it to keep up a constant communication with Patras, and while this was the case, it was impossible to reduce it in the ordinary mode of starvation. The garrison consisted of 500 Turks, and a considerable number of Albanians; the soldiers were clamorous for their pay, and much confusion was said to reign in the place. It was understood that the Albanians would surrender on the approach of Lord Byron, and on being paid their arrears, which amounted to 23,000 dollars. Lord Byron was raised to the highest pitch of enthusiasm, and spent his whole time in preparing for the expedition. At the latter end of January. Lord Byron was appointed by the Greek government to the sole command of all the 3000 troops destined to act against Lepanto. But the Suliotes, who conceived that they had found a patron whose wealth was inexhaustible, determined to make the most of the occasion, and proceeded to make the most extravagant demands on their leader for arrears, and under other pretences. Untameable in the field, they were equally unmanageable in a town, and were at this moment peculiarly disposed to be obstinate, riotous, and mercenary. They had been chiefly instrumental in preserving Messolonghi, when besieged the previous autumn by the Turks, had been driven from their abodes, and the whole of their families were at this time in the town destitute of either home or sufficient supplies. Of turbulent and reckless character, they kept the place in awe, and Mavrocordatos having, unlike the other captains, no soldiers of his own, was glad to find a body of valiant mercenaries. Within a fortnight after Lord Byron's arrival, a burgher refusing to quarter some Suliotes who rudely demanded entrance in his house, was killed, and a riot ensued in which some lives were lost. Lord Byron's impatient spirit could ill brook the delay of a favorite scheme, and he saw, with the utmost chagrin, that the state of his favorite troops was such as to render any attempt to lead them out at present impracticable.

The project of proceeding against Lepanto being thus suspended, at a moment when lord Byron's enthusiasm was at its height, it produced a degree of irritability which, if it was not the sole cause, contributed greatly to a severe fit of epilepsy, with which he was attacked on the 15th of February. His lordship was sitting in the apartment of colonel Stanhope, the active and enlightened representative of the Greek committee in Greece, who had gone out to co-operate with lord Byron, and was talking in a jocular manner with Mr. Parry the engineer, when it was observed, from occasional and rapid changes in his countenance, that he was suffering under some strong emotion. On a sudden he complained of a weakness in one of his legs, and rose, but finding himself unable to walk, he cried out for assistance. He then fell into a state of nervous and convulsive agitation, and was placed on a bed. For some minutes his countenance was much distorted. He however,

quickly recovered his senses, his speech returned and he soon appeared perfectly well, although enfeebled and exhausted by the violence of the struggle. During the fit he behaved with his usual remarkable firmness, and his efforts in contending with, and attempting to master the disease, are described as gigantic. In the course of the month the attack was repeated four times; the violence of the disorder at length yielded to the remedies which his physicians advised, such as bleeding, cold bathing, perfect relaxation of mind, &c., and he gradually recovered. An accident happened during this illness, which was ill calculated to aid the efforts of his medical advisers. A Suliote walked into the Scraglio, which had formerly been used as a sort of fortress and barrack for the Suliotes. The sentinel on guard ordered him to retire; and the sergeant of the guard pushed him back. The Suliote struck again: the sergeant and he closed and struggled, when the Suliote drew a pistol from his belt, and shot captain Sass, a Swede, who came up, and ordered him to the guard room. This was a serious affair, and great apprehensions were entertained that it would not end here. The Suliotes refused to surrender the man to justice, alleging that he had been struck, which, in Suliote law, justifies all the consequences which may follow.

Notwithstanding lord Byron's improvement in health, his friends felt from the first that he ought to try a change of air. A gentleman of Zante wrote to him early in March, to induce him to return to that island for a time; in reply to his letter, he said, *I cannot quit Greece* while there is a chance of my being of (even supposed) utility,—there is a stake worth millions such as I am,—and while I can stand at all, I must stand by the cause.

After so severe a fit of illness, it may well be supposed that he was in no humor to pursue his scheme against Lepanto—supposing that his state of health had been such as to bear the fatigue of a campaign in Greece. The Suliotes, however, showed some signs of repentance, and offered to place themselves at his lordship's disposal. They had however another objection to the nature of the service. In a letter which colonel Stanhope wrote to lord Byron on the 6th of March, from Athens, he tells his lordship that he had bivouacked on the 21st of February in the hut of the prefect of the Lepanto district, who had just had a conference with the garrison of that place. This man said that if lord Byron would march there with a considerable force and the arrears due to the troops, that the fortress would be surrendered; and colonel Stanhope adds a pressing entreaty that lord Byron would proceed there immediately, and take advantage of this disposition on the part of the garrison. To this his lordship has appended this note: 'the Suliotes have declined marching against Lepanto, saying that they would not fight against stone walls. Colonel Stanhope also knows their conduct here, in other respects lately.' We may conclude that the expedition to Lepanto was not thought of after this time.

This letter, which communicated the facility with which Lepanto might be taken, also announced to lord Byron the intention of Ulysses

Odysseus, to summon a congress of chiefs at Salona, to consider of a mode of uniting more closely the interests of Eastern and Western Greece, and arranging between them some method of strict co-operation. The whole of these two districts are all subordinate to their respective governments, and, as the Turkish army was expected to come down, it was supposed by Odysseus that some plan of acting in concert might be hit upon, which would not only enable them to resist the enemy with greater effect, but likewise rapidly advance the progress of civilisation and the authority of the government and constitution; Odysseus, who had the most influence in Eastern Greece, and was able to collect all the chiefs of his own district, was most desirous of prevailing upon Mavrocordatos and lord Byron, who were all-powerful in the opposite territory, to be present at this congress, which he proposed to hold at Salona, a town nearly on the confines of the two departments. Two agents were sent to persuade them to join in the design and repair to Salona. Odysseus himself, first despatched Mr. Finlay, and after him captain Humphries went over to Messolonghi with all haste, by desire of colonel Stanhope. The latter succeeded: lord Byron, as may be supposed, was well disposed to the measure, but his consent was for some time held back by the prince, who had reasons for not approving the congress. Mavrocordatos was always averse to meeting Odysseus, a man of a very different character from himself, nor did he relish the idea of lord Byron's quitting the seat of his government. It was however apparently settled that both should attend at Salona.

But they did not set out in a few days as it seems to have been intended. In the government, which since lord Byron's arrival at Messolonghi had been changed, the civil and island interest now greatly preponderated, and consequently by it a congress of military chiefs was looked upon with some jealousy, and most unjustly stiled an unconstitutional measure. Mavrocordatos's views were now those of the government, so that, in addition to his private motives, he had also a public interest in withholding lord Byron from Salona. Various pretexts were urged for delay—among others, whether a true or a pretended one is not exactly ascertained, a design of delivering up Messolonghi to the Turks was alleged against the Suliotes. But at last came lord Byron's fatal illness, and all schemes of congresses and campaigns were for a time forgotten in the apprehensions entertained for his life, and in the subsequent lamentations over his death: the meeting took place at Salona, on the 16th of April; Mavrocordatos was not there, and lord Byron was on his death-bed.

'My master' says Mr. Fletcher, 'continued his usual custom of riding daily when the weather would permit, until the 9th of April. But on that ill-fated day, he got very wet, and on his return home, his lordship changed the whole of his dress, but he had been too long in his wet clothes, and the cold, of which he had complained more or less ever since we left Cephalonia, made this attack be more severely

felt. Though rather feverish during the night his lordship slept pretty well, but complained in the morning of a pain in his bones and a headache: this did not, however, prevent him from taking a ride in the afternoon, which I grieve to say was his last. On his return, my master said that the saddle was not perfectly dry, from being so wet the day before, and observed that he thought it made him worse. His lordship was again visited by the same slow fever, and I was sorry to perceive on the next morning, that his illness appeared to be increasing. He was very low, and complained of not having had any sleep during the night. His lordship's appetite was also quite gone. I prepared a little arrow-root, of which he took three or four spoonfuls, saying it was very good, but could take no more. It was not till the third day, the 12th, that I began to be alarmed for my master. In all his former colds, he always slept well, and was never affected by this slow fever. I therefore went to Dr. Bruno and Mr. Millingen, the two medical attendants, and enquired minutely into every circumstance connected with my master's present illness: both replied that there was no danger, and I might make myself perfectly easy on the subject, for all would be well in a few days. This was on the 13th; on the following day I found my master in such a state, that I could not feel happy without supplicating that he would send to Zante for Dr. Thomas: after expressing my fears lest his lordship should get worse, he desired me to consult the doctors, which I did, and was told there was no occasion for calling in any person, as they hoped all would be well in a few days. Here I should remark, that his lordship repeatedly said in the course of the day, he was sure the doctors did not understand his disease; to which I answered, then, my lord, have other advice by all means. 'They tell me,' said his lordship, 'that it is only a common cold, which you know I have had a thousand times.' I am sure, my lord, said I, that you never had one of so serious a nature. 'I think I never had,' was his lordship's answer. I repeated my supplications that Dr. Thomas should be sent for on the 15th, and was again assured that my master would be better in two or three days. After these confident assurances, I did not renew my entreaties until it was too late. With respect to the medicines that were given to my master, I could not persuade myself that those of a strong purgative nature were the best adapted for his complaint, concluding that, as he had nothing on his stomach, the only effect would be to create pain: indeed this must have been the case with a person in perfect health. The whole nourishment taken by my master for the last eight days, consisted of a small quantity of broth at two or three different times, and two spoonfuls of arrow-root on the 18th, the day before his death. The first time I heard of there being any intention of bleeding his lordship, was on the 15th, when it was proposed by Dr. Bruno, but objected to at first by my master, who asked Mr. Millingen if there was any very great reason for taking blood: the latter replied that it might be of service, but added that it could be deferred till the next day. And accordingly my master

was bled in the right arm, on the evening of the 16th, and a pound of blood was taken. I observed at the time, that it had a most inflamed appearance. Dr. Bruno now began to say he had frequently urged my master to be bled, but that he always refused; a long dispute now arose about the time that had been lost, and the necessity of sending for medical assistance to Zante, upon which I was informed for the first time, that it would be of no use, as my master would be better, or no more, before the arrival of Dr. Thomas. His lordship continued to get worse, but Dr. Bruno said, he thought letting blood again would save his life, and I lost no time in telling my master how necessary it was to comply with the doctor's wishes; to this he replied by saying, he feared they knew nothing about his disorder, and then stretching out his arm, said, 'here, take my arm and do whatever you like.' His lordship continued to get weaker, and on the 17th he was bled twice in the morning, and at two o'clock in the afternoon; the bleeding at both times was followed by fainting fits, and he would have fallen down more than once, had I not caught him in my arms. In order to prevent such an accident, I took care not to let his lordship stir without supporting him. On this day, my master said to me twice,—'I cannot sleep, and you well know I have not been able to sleep for more than a week: I know,' added his lordship, 'that a man can only be a certain time without sleep, and then he must go mad, without any one being able to save him; and I would ten times sooner shoot myself than be mad, for I am not afraid of dying, I am more fit to die than people think.' I do not, however, believe that his lordship had any apprehension of his fate till the day after, the 18th, when he said, 'I fear you and Tita will be ill by sitting up constantly night and day.' I answered, 'we shall never leave your lordship till you are better.' As my master had a slight fit of delirium on the 16th, I took care to remove the pistols and stiletto which had hitherto been kept at his bed side in the night. On the 18th his lordship addressed me frequently, and seemed to be very much dissatisfied with his medical treatment. I then said, 'Do allow me to send for Dr. Thomas,' to which he answered, 'do so, but be quick. I am only sorry I did not let you do so before, as I am sure they have mistaken my disease; write yourself, for I know they would not like to see other doctors here.' I did not lose a moment in obeying my master's orders, and on informing Dr. Bruno and Mr. Millengen of it, they said it was very right, as they now began to be afraid themselves. On returning to my master's room, his first words were, 'Have you sent?' 'I have, my lord,' was my answer; upon which he said, 'You have done right, for I should like to know what is the matter with me.' Although his lordship did not appear to think his dissolution was so near, I could perceive he was getting weaker every hour, and he even began to have occasional fits of delirium. He afterwards said, 'I now begin to think I am seriously ill, and, in case I should be taken off suddenly, I wish to give you several directions, which I hope you will be particular in seeing

executed.' I answered I would, in case such an event came to pass, but expressed a hope that he would live many years, to execute them much better himself, than I could. To this my master replied, 'No, it is now nearly over,'—and then added, 'I must tell you all without losing a moment.' I then said, 'Shall I go my lord, and fetch pen, ink, and paper?' 'Oh! my God! no—you will lose too much time, and I have it not to spare, for my time is now short,' said his lordship, and immediately after, 'Now, pay attention;' his lordship commenced by saying, 'You will be provided for. I begged him, however, to proceed with things of more consequence; he then continued, 'Oh, my poor dear child! my dear Ada; my God, could I but have seen her! give her my blessing!—and my dear sister Augusta and her children;—and you will go to lady Byron, and say ——— tell her everything,—you are friends with her.' His lordship appeared to be greatly affected at this moment. Here my master's voice failed him, so that I could only catch a word at intervals, but he kept muttering something very seriously for some time, and would often raise his voice and say, 'Fletcher, now if you do not execute every order which I have given you, I will torment you hereafter if possible.' Here I told his lordship in a state of the greatest perplexity, that I had not understood a word of what he said, to which he replied, 'Oh, my God! then all is lost! for it is now too late—can it be possible you have not understood me?' 'No, my lord,' said I, 'but I pray you to try and inform me once more.' 'How can I?' rejoined my master, 'it is now too late, and all is over.' I said, 'Not our will, but God's be done;' and he answered, 'Yes, not mine be done—but I will try ———' His lordship did indeed make several efforts to speak, but could only repeat two or three words at a time, such as 'my wife! my child! my sister! you know all,—you must say all,—you know my wishes;' the rest was quite unintelligible. A consultation was now held (about noon), when it was determined to administer some Peruvian bark and wine. My master had now been nine days without any sustenance whatever, except what I have already mentioned. With the exception of a few words, which can only interest those to whom they were addressed, and which, if required, I shall communicate to themselves, it was impossible to understand anything his lordship said, after taking the bark. He expressed a wish to sleep. I at one time asked whether I should call Mr. Parry, to which he replied, 'Yes, you may call him.' Mr. Parry desired him to compose himself. He shed tears, and, apparently, sunk into a slumber. Mr. Parry went away, expecting to find him refreshed on his return,—but it was the commencement of the lethargy preceding his death. The last words I heard my master utter were at six o'clock on the evening of the 18th, when he said, 'I must sleep now:' upon which he laid down, never to rise again! for he did not move hand or foot during the following twenty-four hours. His lordship appeared, however, to be in a state of suffocation at intervals, and had a frequent rattling in the throat; on these occasions, I called Tita to assist me in

raising his head, and I thought he seemed to get quite stiff. The rattling and choking in the throat took place every half hour; and we continued to raise his head whenever the fit came on, till six o'clock in the evening of the 19th, when I saw my master open his eyes, and then shut them, but without showing any symptom of pain, or moving hand or foot. 'Oh! my God,' I exclaimed, 'I fear his lordship is gone.' The doctors then felt his pulse, and said, 'You are right—he is gone.'

From the account of the examination of the body it is plain that lord Byron died in consequence of inflammation of the brain: at least if the appearances really were as described: and the cause of the attack was clearly his exposure to wet and cold on the 9th of April.

His lordship's death was a severe blow to the people of Messolonghi, and they testified their sincere and deep sorrow by paying his remains all the honors their state could by any possibility invent and carry into execution. The rude and military mode in which the inhabitants of Messolonghi, and other places, vented their lamentations over the body of their deceased patron and benefactor, touches the heart more deeply than the vain and empty pageantry of much more civilised states. Immediately after the death of lord Byron, and it was instantly known, for the whole town were watching the event, the prince Mavrocordatos published the following proclamation:—

Art. 1185.

'Provisional Government of Western Greece.'

'The present day of festivity and rejoicing, is turned into one of sorrow and mourning.

'The lord Noel Byron departed this life at six o'clock last night, after an illness of ten days: his death being caused by an inflammatory fever. Such was the effect of his lordship's illness on the public mind, that all classes had forgotten their usual recreations of Easter, even before the afflicting end was apprehended.

'The loss of this illustrious individual is undoubtedly to be deplored by all Greece; but it must be more especially a subject of lamentation at Messolonghi, where his generosity has been so conspicuously displayed, and of which he had even become a citizen, with the ulterior determination of participating in all the dangers of the war.

'Every body is acquainted with the beneficent acts of his lordship, and none can cease to hail his name as that of a real benefactor.

'Until, therefore, the final determination of the national government be known, and by virtue of the powers with which it has been pleased to invest me, I hereby decree,

'1st. Tomorrow morning, at daylight, thirty-seven minute guns will be fired from the grand battery, being the number which corresponds with the age of the illustrious deceased.

'2nd. All the public offices, even to the tribunals, are to remain closed for three successive days.

'3rd. All the shops, except those in which provisions or medicines are sold, will also be shut: and it is strictly enjoined, that every spe-

cies of public amusement, and other demonstrations of festivity, at Easter, may be suspended.

'4th. A general mourning will be observed for twenty-one days.

'5th. Prayers and a funeral service are to be offered up in all the churches.

(Signed)

A. MAVROCORDATOS.

GIORGUS PRAIDIS,

Secretary.

*Given at Messolonghi,
this 19th day of April, 1824.*

There was considerable difficulty in fixing upon the place of interment. No directions had been left by lord Byron—and no one could speak as to the wishes he might have entertained on the point. After the embalming, the first step was to send the body to Zante, where the authorities were to decide as to its ultimate destination. Lord Sidney Osborne, a relation of lord Byron by marriage, the secretary of the senate at Corfu, repaired to Zante to meet it. It was his wish, and that of some others, that his lordship should be interred in that island—a proposition which was received with indignation and most decidedly opposed by the majority of the English. By one it was proposed that his remains should have been deposited in the temple of Theseus, or in the Parthenon at Athens, and as some importance might have been attached to the circumstance by the Greeks, and as there is something consolatory in the idea of lord Byron reposing at last in so venerable a spot, thus re-consecrating, as it were, the sacred land of the arts and the muses, we cannot but lament that the measure was not listened to. Ulysses sent an express to Messolonghi, to solicit that his ashes might be laid in Athens; the body had then, however, reached Zante, and it appearing to be the almost unanimous wish of the English that it should be sent to England, for public burial in Westminster Abbey or St. Paul's, the resident of the island yielded. The Florida was therefore taken up for that purpose.

On its arrival in England, the body lay in state in London for two days, and was escorted out of town by a train of carriages belonging to distinguished personages of various parties. At Nottingham it was received by the corporation, and attended to the place of interment at Hucknall, near his former seat of Newstead Abbey, where a plain marble slab records his name and title, date of death, and age. Lord Byron, besides his legitimate child and heirress, left another daughter in Italy, to whom he bequeathed £5000 on the condition of her not marrying an Englishman. His successor to the title was his cousin, Captain George Anson Byron, of the navy.

We have alluded to certain suppressed 'Memoirs' which lord Byron is said to have written. These he presented to his friend Mr. Thomas Moore, who sold or pledged the copy-right to Mr. Murray for 2000 guineas. On the demise of his lordship an arrangement took place with the family, by which the manuscript was destroyed, and the money returned.

Into the personal character of lord Byron we are not disposed to enter deeply: the grave has scarcely closed upon him; and various exculpatory, as well as honorable facts, in his history,

may yet be brought to light. Certainly his efforts for the Greek cause (in which we have followed him therefore at considerable length) present the redeeming points of his character. Here he found an unoccupied field for high designs and noble daring. The poet, and the scholar, and the British peer, could here receive and impart unquestionable honor. Here, therefore, his purse was as freely opened as his person and character were boldly embarked, and his former dissipated habits forsaken. And although he was scarcely permitted to see the morning star of the liberties of Greece, he accomplished something for her future benefit, in the union he counselled and for a time effected amongst her rulers; in mitigating the ferocities that

had hitherto marked the Greek as well as the Turkish mode of warfare; and in the splendid disinterestedness of his example. As a poet claiming the first rank, and perhaps the first name of his age, he was only too independent of every acknowledged school: his thoughts, his feelings, his modes of expression, were altogether self-emanative; he bends every thing to the purpose of his genius; he owes little to any rules of his art, and nothing to imitation or his predecessors. But his works have already formed the reader's judgment respecting him. They are published in both the common 8vo. and small 8vo. sizes; the former in 7 vols. the small 8vo. in 8 vols.

BYRON'S ISLAND, an island in the Pacific Ocean, about twelve miles in length, low and flat, full of woods, in which the cocoa tree is predominant. The inhabitants are tall and well proportioned, and of good features. All go naked, wearing strings of shells as ornaments round the neck and wrists. One individual was seen with a string of human teeth about his waist, which he refused to part with. These people use various weapons; the most remarkable is a spear, which, for three feet of its length, is set full of shark's teeth. This island was discovered by commodore Byron, in 1765. Long. 173° 16' E., lat. 1° 18' S.

BYRRHUS, in entomology, a genus of insects belonging to the order of coleoptera. The feelers are clavated, pretty solid, and a little compressed. The species of this genus are *gigas*, *pilula*, *ater*, *dorsalis*, *varius*, *æneus*, *nitidus*, *fasciatus*, and *virescens*.

BYRSEUS, in fabulous history, a king of Thrace, who having entertained Jupiter, Mercury, and Neptune, with great hospitality, was offered, as a reward for his virtue, whatever he should ask. Having no children, he asked a son, whom these deities accordingly co-operated to produce, in a manner equally miraculous and ridiculous, by jointly making their water in a bull's hide; which, being buried in the earth, in due time produced the boy Orion.

BYSAS, a Thracian monarch, who, according to Diodorus Siculus, founded Byzantium. Eustathius makes him a native of Megara, who arrived in Thrace, and settled there with a colony of Megarenses, a short time before the expedition of the Argonauts.

BYSSOLETE, a massy mineral, of an olive-green color, in short stiff filaments, implanted perpendicularly on stones, like moss. It has been found near Mont Blanc, on gneiss.

BYSSUM, or BYSSUS, a fine thready matter produced in India, Egypt, and about Elis in Achaia, of which the richest apparel was anciently made, especially that worn by the priests both Jewish and Egyptian. Some interpreters render the Greek *βυσσος*, which occurs both in the Old and New Testament, by *fine linen*. But other versions, as Calvin's and the Spanish printed at Venice in 1556, explain the word by *silk*; and yet byssus must have been different

from our silk, as appears from many ancient writers, particularly Julius Pollux. M. Simon agrees with Hesychius and Bochart, that the byssus was a finer kind of linen, which was frequently dyed purple. Some authors will have the byssus to be the same with our cotton, others take it for the *linum asbestinum*; and others for the lock or bunch of silky hair found adhering to the pinna marina, by which it fastens itself to other bodies. That of Judea was the finest.

BYSSUS, in botany, a genus of mosses, belonging to the order algae, in the cryptogamia class of plants; and ranked by some under algae, the fifty-seventh order in the natural method; though others rank them under the fifty-eighth, fungi. The characters are, that the mosses of it are composed of simple and uniform parts, and always appear in the form of excrescences, either of a woolly or of a dusty matter. It seems properly a genus of a middle kind, between the mushrooms and the mosses, but most approaching to the latter, as the several species of it are of longer duration, and want that fleshy texture which distinguishes the fungus class, and as they never produce heads, nor have any thing of the figure or texture of fungi. They have not yet been discovered to have either flower or seed, but appear always in form of threads, or of a light down, on the surface of many different bodies, but principally such as are liable to putrefaction. Michaeli, in his *Nov. Gen. Plantarum*, p. 210, mentions the seeds of some of the byssi: but later botanists, and particularly the indefatigable Dillenius, were never able to observe them. This last author has described twenty species of these small plants. There are fifteen natives of Britain. They are found in many parts of Europe, covering the ground like a carpet.

BYSSUS asbestinus, a species of asbestos or combustible flax, composed of fine flexible parallel fibres. It is found plentifully in Sweden, either white or of different shades of green. At a copper mine, in Westmannland, it forms the greatest part of the vein out of which the ore is dug; and, by the heat of the furnace which melts the metal, is changed into a pure semi-transparent glass.

BYSTROPOGON, in botany, a genus of plants of the class didynamia, order gymnospermia, natural order verticillatæ; essential charac-

ters, CAL. bearded; cor. a bifid upper lip, the lower one being three lobed; STAM. distant. There are seven species, viz. 1. *B. pectinatum*, a perennial plant, growing from six to seven feet high, and bearing a fine yellow flower; 2. *B. plumosum*, a native of the Canary Isles; 3. *B. originifolium*, also from the Canaries; 4. *B. Canariensis*, found at Madeira; 5. *B. punctatum*, brought from Madeira by Sir Joseph Banks; 6. *B. suavolens*, an annual shrub, growing in South America, and the West Indies. It is very much made use of as a cephalic and alexipharmic.

BYZANTIUM, an ancient city of Thrace, situated on the Bosphorus. It was founded, according to Eusebius, about the thirtieth olympiad, while Tullius Hostilius reigned in Rome. But according to Diodorus Siculus, the foundations were laid in the time of the Argonauts, by one Bysas, from whom the city was called Byzantium. See **BYZAS**. Velleius Paterculus ascribes the founding of it to the Milesians, and Ammianus Marcellinus to the inhabitants of Attica. Some ancient Byzantine medals bear the name and head of Bysas, with the prow of a ship on the reverse. The year after the destruction of Jerusalem by Titus, Byzantium was reduced to a Roman province. In A. D. 193 it took part with Niger against Severus. It was strongly garrisoned by Niger, as being a place of the utmost importance. It was soon after invested by Severus; and, as he was universally hated for his cruelty, the inhabitants defended themselves with the greatest resolution. They had been supplied with a great number of warlike machines, most of them invented and built by Periscus, a native of Nicaea, and the greatest engineer of his age. For a long time they baffled all the attempts of the assailants, killed great numbers of them, and crushed with large stones such as approached the walls; and when stones began to fail, they used the statues of their gods and heroes. At last they were obliged to submit, through famine, after having been reduced to the necessity of devouring one another. Severus put all the magistrates and soldiers to the sword; but spared the engineer Periscus. Before this siege Byzantium was the greatest, most populous, and wealthiest city in Thrace. It was surrounded by walls of an extraordinary height and breadth; and defended by a great number of towers, seven of which were built with such art, that the least noise heard in one of them was immediately conveyed to all the rest. But Severus was no sooner master of it, than he laid it in ashes. The inhabitants were stripped of all their effects, and sold for slaves, and the walls levelled with the ground. By the chronicle of Alexandria we are informed, that, soon after this terrible catastrophe, Severus himself caused a great part of the city to be rebuilt, calling it Antonina from his son Antoninus Ca-

racalla. In 262 the tyrant Gallienus wreaked his fury on the inhabitants of Byzantium. He intended to besiege it; but on his arrival, despaired of being able to make himself master of such a strong place. He was admitted the next day, however, into the city; and, without regarding the terms he had agreed to, caused the soldiers and all the inhabitants to be put to the sword. Trebellius Pollio says, that not a single person was left alive. What the reason was for such an extraordinary massacre, we are nowhere informed. In the wars between the emperors Licinius and Maximin, Byzantium was obliged to submit to the latter, but was soon after recovered by Licinius. In 323 it was taken from Licinius by Constantine the Great, who in 330 greatly enlarged and beautified it. He began with extending its walls from sea to sea; and, while some of the workmen were busied in rearing them, others were employed in raising within them a great number of stately buildings, and among others a palace no way inferior in magnificence and extent to that of Rome. He built a capitol and amphitheatre, and made a circus maximus, several forums, porticoes, and public baths; and divided the whole city into fourteen regions. Thus Byzantium became one of the most flourishing and populous cities of the empire. Vast numbers of people flocked to it from Pontus, Thrace, and Asia, Constantine having decreed, that such as had lands in those countries should not be at liberty to dispose of them, nor even leave them to their heirs at their death, unless they had a house in his new city. But however desirous the emperor was that his city should be filled with people, he did not wish it to be inhabited by any but Christians. He therefore caused all the idols to be pulled down, and all their temples consecrated to the true God. He built besides an incredible number of churches, and caused crosses to be erected in all the squares and public places. Most of the buildings being finished, it was solemnly dedicated to the Virgin Mary, according to Cedrenus, but, according to Eusebius, to the God of Martyrs. At the same time Byzantium was equalled to Rome in point of privileges. The same rights and immunities were granted to its inhabitants as to those of the metropolis. He established a senate and other magistrates, with a power and authority equal to those of Old Rome. He took up his residence in the new city, and changed its name to **CONSTANTINOPLE**, which see.

BZOVIVS (Abraham), a celebrated writer of the seventeenth century. His chief work is the continuation of Baronius's Annals. He was a native of Poland, and a Dominican friar. Upon his coming to Rome he was received with open arms by the pope, and had an apartment assigned him in the Vatican. He died in 1637, aged seventy.

C.

C, the third letter of the alphabet, has two sounds; but neither of them properly its own. Ben Jonson says, 'our forefathers might very well have spared it in our tongue.' It sounds like *k*, before *a*, *o*, *u*, or a consonant; and like *s*, before *e*, *i*, and *y*. In Saxon and Irish it is invariably pronounced like *k*.

C, in music, the name of that note in the natural major mode, to which Guido applied the monosyllable, for which the Italians now substitute *D*².—C above G gamut, that note which is a fourth higher than G gamut.—C above the bass cliff, that note which is a fifth higher than the bass cliff.—C above the treble cliff, a note which is a fourth higher than the treble cliff.

CAA APIA, in botany, the Brazilian name of the *dorstema Brasilensis*, the root of which so much resembles the *ipecacuanha* in its virtues, that some have erroneously called it by the same name. It is astringent and emetic, but possesses both qualities in a weaker degree, and is therefore given in a larger dose, a dram being commonly given at once. The Brasilians bruise the whole plant, and express the juice, which they take internally, and apply externally to wounds by poisoned arrows, and by the bites of serpents.

CAABA, or CAABAI, properly signifies a square stone building; but is particularly applied to the Mahomedans to the temple of Mecca. This edifice is indisputably so ancient, that its original use and the name of its builder are lost in a cloud of idle traditions. The Mahomedans affirm that it is almost coeval with the world, and they pretend that Adam, after his expulsion from paradise, supplicated divine permission to erect a building like what he had seen there, called 'Beit al Mamâr,' or the frequented house, and 'Al Dorâh,' towards which he might direct his prayers, and which he might compass, as the angels do the celestial one. Upon which God let down a representation of that house in curtains of light, and set it in Mecca, perpendicularly under its original, ordering the patriarch to turn towards it when he prayed, and to compass it by way of devotion. After Adam's death, they say, his son Seth built a house in the same form, of stones and clay, which, being destroyed by the deluge, was rebuilt by Abraham and Ishmael, at the command of God, in the place where the former had stood, and after the same model; directions for this purpose having been given them by revelation. Independently of these fabulous traditions, it is not improbable that it was erected by some of the patriarchs descended from Ishmael; but whether it was built as a place of divine worship, as a fortress, as a sepulchre, or as a monument of the treaty between the old possessors of Arabia and the sons of Kedar, it is impossible to ascertain. Reland supposes that it was the mansion of some ancient patriarch, and on that account revered by his posterity. At length it came to be appropriated to the service of pagan Arab divinities; but that it was not

originally a temple seems to appear from these circumstances,—that the door was not placed in the middle of the structure, and that, for many ages, there was no divine worship performed in it, though the pagan Arabs frequently went in procession round it. It is most probable, however, that the caaba was primarily designed for religious purposes; and it is certain that it was held in the highest veneration long before the birth of Mahomet. Having undergone several reparations, it was, a few years after his birth, rebuilt by the tribe of Koreish, who had acquired the custody of it either by fraud or force, on the same foundation; afterwards repaired by Abdallah Ebn Zobeir, the caliph of Mecca, and again rebuilt by Yusof, surnamed Al Hejâj, in the seventy-fourth year of the Hegira, with some alterations, in the form in which it now remains. The temple is in length, from north to south, about twenty-four cubits; in breadth, from east to west, twenty-three; and in height twenty-seven. The door, which is on the east side, stands about four cubits from the ground; the floor being level with the bottom of the door. In the corner next this door is the black stone, so much celebrated among the Mahomedans. On the north side of the caaba, within a semicircular enclosure fifty cubits long, lies the white stone, said to be the sepulchre of Ishmael, which receives the rain water from the caaba by a spout, formerly of wood, but now of gold. The black stone, according to the Mahomedans, was brought down from heaven by Gabriel at the creation of the world; and originally of a white color; but contracted the blackness which now appears on it, from the guilt of the sins committed by the sons of men! It is set in silver, and fixed in the south-east corner of the caaba, looking towards Basra, about seven spans from the ground. This stone, upon which there is the figure of a human head, is held in the highest estimation among the Arabs; all the pilgrims kissing it with great devotion, and some even calling it the right hand of God. Its blackness, which is only superficial, is probably owing to the kisses and touches of so many people. After the Karmatians had taken Mecca, they carried away this precious stone, and could by no means be prevailed upon to restore it; but finding at last that they were unable to prevent the concourse of pilgrims to Mecca, they sent it back of their own accord, after having kept it twenty-two years. The double roof of the caaba is supported within by three octagonal pillars of aloes-wood; between which, on a bar of iron, hang some silver lamps. The outside is covered with rich black damask, adorned with an embroidered band of gold, which is changed every year, and was formerly sent by the caliphs, afterwards by the sultans of Egypt, and is now provided by the Turkish emperors. The caaba, at some distance, is almost surrounded by a circular enclosure of pillars, joined towards the bottom by a low balustrade, and towards the top by bars of silver. Just

without this inner enclosure, on the south, north, and west sides of the caaba, are three buildings, which are the oratories where three of the orthodox sects assemble to perform their devotions. Towards the south-east stands an edifice which covers the well zemzen, the treasury, and the cupola of Al Abbas. Formerly there was another cupola, that went under the name of the hemicycle, or cupola of Judæa: but whether any remains of that are now to be seen is unknown; nor is it easy to obtain information in this respect, all Christians being denied access to this holy place. At a small distance from the caaba, on the east side, is the station of Abraham; where is another stone much respected by the Mahomedans, and where they pretend to show the footsteps of the patriarch, where he stood when he built the caaba. Here the fourth sect of Arabs, viz. that of Al Shafei, assemble for religious purposes. The square colonnade, or great piazza, which at a considerable distance encloses these buildings, consists, according to Al Janabi, of 448 pillars, and has no less than thirty-eight gates. Mr. Sale compares this piazza to that of the Royal Exchange at London, but allows it to be much larger. It is covered with small domes or cupolas, from the four corners of which rise as many minarets or steeples with double galleries, and adorned with gilded spires and crescents, as are also the cupolas which cover the piazza and other buildings. Between the columns of both enclosures hang a great number of lamps, which are constantly lighted at night. The first foundation of this second enclosure was laid by Omar, who built no more than a low wall, to prevent the court of the caaba from being encroached upon by private buildings: but by the liberality of succeeding princes the whole has been raised to that state of magnificence in which it appears at present. This temple is an asylum for all criminals; but it is most remarkable for the pilgrimages made to it by the devout mussulmans, who pay so great a veneration to it, that they believe a single sight of its sacred walls, without any particular act of devotion, is as meritorious, in the sight of God, as the most careful discharge of duty, for a whole year, in any other temple!

CAAMINA, or CAAMINIA, in botany, a name given by the Spaniards and others to the finest sort of Paraguayan tea. It is the leaf of a shrub which grows on the mountains of Maracaya, and is used in Chili and Peru, as tea is with us. The mountains where this shrub grows naturally are far from the inhabited parts of Paraguay; but the people of the place know so well the value and use of it, that they constantly furnish themselves with great quantities of it from the spot. They used to go out on these expeditions many thousands together; leaving their country in the meantime exposed to the insults of their enemies, and many of themselves perishing by fatigue. To avoid these inconveniences, they have of late planted these trees about their habitations; but the leaves of these cultivated ones have not the fine flavor of those that grow wild. The king of Spain has permitted the Indians of Paraguay to bring to the town of Santa Fé 12,000 arobas of the leaves of this tree every year; but they are

not able to procure so much of the wild leaves annually; about half the quantity is the utmost they bring; the other half is made up of the leaves of the trees in their own plantations: and this sells at a lower price, and is called pabos. The aroba is about twenty-five pounds weight; the general price is four piastres; and the money is always divided among the people of the colony.

CAANA, KAANA, a town in Upper Egypt, on the east banks of the Nile, whence they carry corn and pulse to Mecca. It contains several monuments of antiquity, inscribed with hieroglyphics. It is 320 miles south of Cairo. Long. 30° 23' E., lat. 26° 30' N.

CAB. n. s. [קב] A Hebrew measure, containing about three pints English, or the eighteenth part of the ephah.

CABAL', v. & n.	} Heb. <i>cabala</i> ; from hence Ital. <i>cabala</i> ; Fr. <i>cabale</i> . The verb is in Fr. <i>cabaler</i> ; Ital. <i>cabalare</i> . Jewish tradition concerning the Old Testament; mere inventions of the rabbies, which they, a crew of cunning deceivers, united for the purpose of vile intrigue, and securing to themselves the veneration of the people, pretended were divine mysteries. A cabal is a body of men united in some close design; to form close intrigues; to unite in small parties. A cabal differs from a party, as <i>few</i> from <i>many</i> .
CAB'ALA, n.	
CAB'ALIST,	
CAB'ALISM,	
CABALISTICAL,	
CABALISTICK,	
CABALISTICALLY,	
CABAL'LER.	

Faction and rich, bold at the council board;
But, cautious in the field, he shunned the sword;
A close *caballer*, and tongue-valiant lord. *Dryden*.
His mournful friends, summoned to take their leaves,

Are thronged about his couch, and sit in council:
What those *caballing* captains may design,
I must prevent, by being first in action. *Id.*

When each, by cursed *cabals* of women, strove
To draw the indulgent king to partial love. *Id.*

Then Jove thus spake: with care and pain
We formed this name, renowned in rhyme,
Not thine, immortal Neufgermain!
Cost studious *cabalists* more time. *Swift*.

She often interposed her royal authority, to break the *cabals* which were forming against her first ministers. *Addison*.

The letters are *caballistical*, and carry more in them than it is proper for the world to be acquainted with. *Id.*

He taught him to repeat two *caballistick* words, in pronouncing of which the whole secret consisted. *Spectator*.

CABAL is said to have been a kind of acrostical name given to the infamous ministry of Charles II., composed of Clifford, Ashley, Buckingham, Arlington, and Lauderdale; the first letters of whose names, in this order, formed the word which has since become an appellative for similar juntos. But it would appear to be of greater antiquity.

CABALA, or CABALA VEIN, in natural history, a kind of iron ore, commonly wrought in Sussex. It is stony, of a brownish color, with a blush of red, which is more or less conspicuous in different parts of the same masses. It is

usually found in thin strata, near the surface, and is not very rich in iron, but runs very readily in the fire.

CABALA. See **CAEBALA**.

CABALARIA, in botany; class polygamia, order diœcia: cal. small, persisting, campanulate, with five oval divisions: cor. wheel-shaped; tube very short; border divided into five oval segments: stam. anthers five, inserted at the base of the segments of the corolla: pist. stigma sessile, five-sided; germ superior, nearly round: per. globular, drupe one-seeded, with five oblong points. Eight species are described in the *Flora Peruviansis*, all shrubs, natives of South America.

CABALLARIA, in middle age writers, lands held by the tenure of furnishing a horseman with suitable equipage, in time of war, or when the lord had occasion for him.

CABALLI, or **COBALES**, among mystic philosophers, denote the shades, or bodies of men who died any sudden or violent death before the expiration of their predestinated term of life. They were supposed to wander as ghosts over the face of the earth, till their destined term was accomplished; being doomed to live out the time as spirits, which they ought to have spent in the flesh.

CABALLINUM, in ancient geography, a town of the *Æduli*, in Gallia Celtica; now called *Chalons sur Saone*, which see.

CABALLINUS, in ancient geography, a clear fountain of mount Helicon, in Boeotia; called Hippocrene by the Greeks, fabled to have been opened by Pegasus on striking the rock with his hoof, and hence called Pegasus.

CABANIS (Peter John George), a French physician, born about 1756. He became connected with Mirabeau, and was one of the council of five hundred in the revolution. He died in 1808. His works are,—1. *Observations sur les Hopitaux*, 8vo. 2. *Journal de la Maladie et de la Mort de Mirabeau*, 8vo. 3. *Melanges de Litterature Allemande*. 4. *Du Degre de Certitude de la Medicine*, 8vo. 5. *Quelques Considerations sur l' Organization Sociale en generale*, 12mo. 6. *Des Rapports du Physique et du Morale de l'Homme*, 2 vols. 8vo. 7. *Coup d'œil sur les Revolutions et la Reforme de la Medicine*, 8vo. 8. *Observations sur les Affections Catarrhales*, 8vo.

CABBAGE, *v. & n.* } Cole, with a head;
CABBAGE-TREE. } a species of plant. Fr. *chou cabus*; Ital. *volo cappuccio*; *capitati*, from Lat. *caput*. The name is supposed by some to have been given to particular kinds of cole, to distinguish them from others that do not cabbage or head. To cabbage, is to form a head as the plants begin to cabbage. To cabbage, a cant word among tailors, and refers to what is taken or purloined in cutting out clothes, is from the Ital. *capezzo*, *roba capula*; from Lat. *capio*.

'Tis scarce an hundred years since we first had cabbages out of Holland, Sir Arth. Ashley of Wiberg St. Giles, in Dorsetshire, being, as I am told, the first who planted them in England.

Acetaria, or Discourse of Sallets.

Amongst herbs to be eaten, I find gourds, cucum-
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bers, coleworts, melons, disallowed, but especially cabbage. *Burton's Anatomy of Melancholy.*

Your taylor, instead of shreds, cabbages whole yards of cloth. *Arbutnot.*

The leaves are large, fleshy, and of a glaucous color; the flowers consist of four leaves, which are succeeded by long taper pods, containing several round acrid seeds. The species are, cabbage. Savoy cabbage. Broccoli. The cauliflower. The musk cabbage. Branching tree cabbage, from the sea coast. Colewort. Perennial Alpine colewort. Perfoliated wild cabbage, &c. *Miller.*

It is very common in the Caribbee islands, where it grows to a prodigious height. The leaves of this tree envelope each other, so that those which are inclosed, being deprived of the air, are blanched; which is the part the inhabitants cut for plants for hats, and the young shoots are pickled: but whenever this part is cut out, the trees are destroyed; nor do they rise again from the old roots; so that there are very few trees left remaining near plantations. *Id.*

Cole cabbage, and coleworts, are soft and demulcent, without any acidity; the jelly or juice of red cabbage, baked in an oven, and mixed with honey, is an excellent pectoral. *Arbutnot, on Aliment.*

CABBAGE. See **BRASSICA**.

CABBAGE BARK TREE. See **GIOIFRGEA**.

CABBAGE, DOG'S. See **THELIGONUM**.

CABBAGE PALM, TRUE. See **ARECA**.

CABBAGE, SEA. See **CRAMBE**.

CABBAGE, TREE. See **CALALIA**.

CABALA, a mysterious kind of science, pretended to have been delivered by revelation to the ancient Jews, and transmitted by oral tradition to those of our times; serving for interpretation of the books both of nature and Scripture. The word is also written Cabala, Kabbala, Kabbala, Cabalistica, Ars Cabala, and Gaballa. It is originally Hebrew, קבלה, kabbalah; and properly signifies reception; formed from the verb קבל, kibel, to receive by tradition. Caballa then primarily denotes any sentiment, opinion, usage, or explication of Scripture transmitted from father to son. In this sense, the word is not only applied to the whole art; but also to each operation performed according to its rules. Thus R. Jac. Ben-Ascher, surnamed Baal-Hatturim, is said to have compiled most of the cabbalas invented on the books of Moses before his time. The cabballa is by some called the acromatic philosophy of Moses, by way of distinction from the exoteric or popular doctrine. The generality of the Jews prefer the cabballa to the Scripture; comparing the former to the sparkling lustre of a precious stone, and the latter to the faint glimmering of a candle. The first author who delivered any thing of the cabballa was Joachides, Simon son of Joachai, who published a famous cabballistical work, entitled Zohar. Some say, he lived about the time of the destruction of Jerusalem by Titus; others only in the tenth century. There are no sure principles of this knowledge. It depends entirely upon the traditions of the ancients. The cabballists have abundance of names which they call sacred; these they make use of in invoking of spirits, and imagine they receive great light from them. They tell us that the secrets of the cabballa were discovered to Moses on mount Sinai; and that these have been delivered down to them from father

to son, without interruption, and without any use of letters; for to write them down, is what they are by no means permitted to do. This is likewise termed the oral law, because it passed from father to son, in order to distinguish it from the written laws. Another kind of cabbala, viz.

Artificial CABBALA, consists in searching for abstruse and mysterious significations of a word in Scripture, whence they borrow certain explanations, by combining the letters which compose it: this cabbala is divided into three kinds, the gematric, the notaricon, and the temura or themurah. The gematric consists in taking the letters of a Hebrew word for ciphers or arithmetical numbers, and explaining every word by the arithmetical value of the letters whereof it is composed. The notaricon consists in taking every particular letter of a word for an entire diction. The themurah (change) consists in making different transpositions or changes of letters, placing one for the other, or one before the other. Some visionaries among the Jews believe that Jesus Christ wrought his miracles by virtue of the mysteries of the cabbala.

CABBALA is also applied to the abuse which visionaries make of Scripture, for discovering futurity, by the study and consideration of the combination of certain words, letters, and numbers, in the sacred writings. All the words, terms, magical figures, numbers, letters, charms, &c. used in the Jewish magic, or in the hermetical science, are comprised under this species of cabbala. But it is only the Christians that call it by this name, on account of the resemblance this art bears to the explication of the Jewish cabbala: for the Jews never use the word in any such sense, but ever with the utmost respect and veneration. It is not, however, the magic of the Jews alone which we call cabbala, but the word is for any kind of magic.

CABECA, or *CABESSE*, a name given to the finest silks in the East Indies; those from fifteen to twenty per cent. inferior, being called *bariga* or *barina*.

CABELLO, or *CAVELLO*, *PORTO*, a sea-port of Venezuela, South America, with a most excellent and capacious harbour. It is situated a league to the west of the bay of Borburata, and has become the emporium of the commerce of the province. Men of war communicate with the land by means of a flying bridge of three or four toises long, the water being at all times smooth, and the bay defended on all sides from the wind. *Porto Cabello*, originally founded by some Dutch pirates, stood formerly on a peninsula, surrounded by the sea, except where a neck of land about 100 toises broad joined it with the continent. This has been now traversed by a canal, which divides the old town from the suburbs, and connects the northern and the southern coasts. The buildings on the continent are by far the most numerous. A bridge crosses the canal, which has a gate shut every evening, and a military guard. The new streets, which are chiefly outside the gate, have been laid out in a line, the public squares, places for markets, &c. being well regulated; so that this part of the town has become the residence of the principal merchants. But it is not considered a healthy

place for Europeans. The population has been estimated at 9000.

An aqueduct, five thousand varas long, conveys the waters of the Rio Estevan by a trench to the town. This work has cost more than 30,000 piastres; but its waters gush out in every street. *Porto Cabello* is the deposit of all the eastern part of the province of Venezuela. Its stores furnish to the jurisdictions of Valencia, San Carlos, Barquisimeto, St. Philip, and one part of the Valleys of Aragua, all the merchandise consumed; and it is at this port also that a great portion of the articles cultivated within those districts arrive. More than 10,000 mules are exported annually. They are thrown down with ropes, and then hoisted on board the vessels by means of a machine. Ranged in two files, they with difficulty keep their feet during the rolling and pitching of the ship; and, in order to frighten and render them docile, the drum is beaten during a great part of the day and night. 'We may guess,' says a late traveller, 'what quiet a passenger enjoys, who has the courage to embark for Jamaica in a schooner laden with mules.'

Next to Carthagena, it is the most important fortified place on this coast. Art has had scarcely any thing to add to the advantages which the nature of the spot presents. A neck of land stretches first towards the north, and then towards the west. Its western extremity is opposite to a range of islands, connected by bridges, and so close together that they might be taken for another neck of land. One vessel only can enter the harbour at a time; while the largest ships can anchor very near land, to take in water. There is no other danger in entering than the reefs of Punta Brava, opposite which a battery of eight guns has been erected. Toward the west and south-west is the fort, which is a regular pentagon with five bastions; in this direction also is the battery of the reef, and the fortifications that surround the ancient town, founded on an island of a trapezoidal form. The bottom of the basin or little lake which forms the harbour of *Porto Cabello*, turns behind the suburb to the south-west.

The real defence of the harbour consists in the low batteries of the neck of land at Punta Brava, and of the reef: but from ignorance of this principle, a new fort, the Belvedere (*Mirador*) of Solano, has been constructed at a great expense, on the mountains towards the south, that command the suburb. It is a quarter of a league distant from the harbour, and is raised 400 or 500 feet above the surface of the water. The works have cost annually, during a great number of years, from 20,000 to 30,000 piastres, but have been of late suspended. The vessels of La Guayra, which is less a port than a bad open roadstead, come to *Porto Cabello* to be caulked and repaired.

CABENDA a port of the western coast of Africa, situated a little to the north of the river Zaire, in the district called properly *Cabongo*. Its situation is so beautiful as to have obtained for it the name of the Paradise of the coast. The landing is easy and safe, and the town is known by a conical mountain, covered with wood, which appears behind it. On the opposite bank is *Togno*, and both places have driven

a large trade in slaves, which the Portuguese have long endeavoured to monopolise. The approach from Malemba is sometimes dangerous.

CABESTAN, or **CABESTEIGN** (William de), a gentleman of Provence, and a troubadour, who, gaining the good graces of Triclino, wife of Raymond de Scillans, was murdered by the husband out of jealousy. Raymond afterwards caused his heart to be served up for the table of his wife, who, on being informed of what she had unconsciously eaten, died of grief.

CABIDOS, or **CAVIDOS**, a long measure used at Goa, and other places of the East Indies, belonging to the Portuguese, to measure stuffs, and linens, and equal to four-sevenths of the Paris ell.

CABILLAU, in ichthyology, a name which some authors call the common cod-fish, the morhua and assellus major of other writers.

CAB'IN, *v. & n.* } Ara. *qoobbu*; Heb. *kaba*;
CAB'INED, *adj.* } Per. *khwab*; Chald. *khuba*;
CABIN'NIATE. } Ital. *capanno*; Fr. *cabane*;
 Welsh, *caban*; Teut. *koben*; all allied to Lat. *cavus*. A cottage; a room in a ship; any small place of dwelling, chamber, or apartment, whether fixed or temporary.

So long in secret *cabin* there he held
 Her captive to his sensual desire,
 Till that with timely fruit her belly swelled,
 And bore a boy unto a savage sire. *Spenser.*

Fleance is escaped; I had else been perfect,
 As broad and general as the casing air;
 But now I am *cabined*, cribbed, confined, bound in,
 To saucy doubts and fear. *Shakespeare.*

I will make you feed on berries and on roots,
 And feed on curds and whey, and suck the goat,
 And *cabin* in a cave. *Id.*

Come from marble bowers, many times the gay
 harbour of anguish,

Unto a *lively cabin*, though weak, yet stronger against
 woes. *Sidney.*

Men may not expect the use of many *cabins*, and
 safety at once, in the sea service. *Raleigh.*

The nice morn, on the Indian steep,
 From her *cabined* loophole peep. *Milton.*

Neither should that odious custom be allowed,
 of laying off the green surface of the ground, to cover
 their *cabins*, or make up their ditches. *Swift.*

Whose wit at best was next to none,
 And now that little next is gone;
 Against the court is always blabbing,
 And calls the senate-house a *cabin*. *Id.*

The chessboard, we say, is in the same place it
 was, if it remain in the same part of the *cabin*, though
 the ship sails all the while. *Locke.*

CABINS, in ships, are the apartments where the officers usually reside. There are many of these in a large ship; the principal of which is designed for the commander. In ships of the line, this chamber is furnished with an open gallery in the ship's stern, and a little gallery on each quarter. The apartments where the inferior officers, or common sailors, sleep and mess are usually called births. The bed places for the sailors at the ship's side in merchantmen are also called cabins.

CABINET, *v. & n.* } Fr. *cabinet*; Ital. *gabinetto*; diminutive of
CABINET-COUNCIL, } *cabin*. A small cham-
CABINET-MAKER, } ber; a repository; a
CABINET-SECRETS, *n.* } chest of drawers. A cabinet-council is a select

choice number of persons, who hold their consultations in a place of seclusion from others.

Hearken awhile in the green *cabinet*,
 The laurel song of careful Colmet. *Spenser.*

The doctrine of Italy, and practice of France, in
 some kings' times, hath introduced *cabinet-councils*. *Bacon.*

At both corners of the farther side, let there be
 two delicate or rich *cabineets*, daintily paved, richly
 hanged, glazed with crystalline glass, and a rich cupola
 in the midst, and all other elegancy that may be
 thought on. *Id.*

Who sees a soul in such a body set,
 Might love the treasure for the *cabinet*. *Ben Jonson.*

We cannot discourse of the secret, but by describing
 our duty; but so much duty must needs open a *cabinet*
 of mysteries. *Taylor.*

You began in the *cabinet* what you afterwards
 practised in the camp. *Dryden.*

Thy breast hath ever been the *cabinet*
 Where I have locked my secrets. *Denham.*

From the highest to the lowest it is universally
 read; from the *cabinet-council* to the nursery. *Gay to Swift.*

The root of an old white thorn will make very fine
 hoxes and combs; so that they would be of great use
 for the *cabinet-makers*, as well as the turners, and
 others. *Mortimer.*

CABINET is also used in speaking of the more select and secret councils of a prince or administration. Thus we say, the secrets, the intrigues of the cabinet. To avoid the inconveniences of a numerous council, some of the despotic princes of Europe first introduced cabinet councils. King Charles I. is charged with first establishing this usage in England. Besides his privy council, that prince erected a kind of cabinet council, or *junto*, under the denomination of a council of state; composed of archbishop Laud, the earl of Strafford, and lord Cottington, with the secretaries of State. Yet some pretend to find the substance of a cabinet council of much greater antiquity, and even allowed by parliament, who anciently settled a quorum of persons most confided in, without whose presence no arduous matter was to be determined; giving them power to act without consulting the rest of the council.

As long ago as the 28th of Henry III. a charter was passed in affirmance of the ancient rights of the kingdom; which provided that four great men, chosen by common consent, who were to be conservators of the kingdom, among other things, should see to the disposing of monies given by parliament, and appropriated to particular uses; and parliament were to be summoned as they should advise. Of these four any two made a quorum; and generally the chief justice of England, and chancellor, were of the number of conservators. In the first of Henry VI. the parliament provides, that the quorum for the privy council be six or four at least; and that, in all weighty considerations, the dukes of Bedford and Gloucester, the king's uncles, should be present; which seems to be erecting a cabinet by law.

CABIRI, a term in the theology of the ancient Pagans, signifying great and powerful gods; being a name given to the gods of Samothracia. They were also worshipped in other parts of Greece, as Lemnos and Thebes, where the cabi-

ria were celebrated in honor of them; these gods are said to be four in number; viz. Axieros, Axiocersa, Axiocersus, and Casmilus. Their festivals were celebrated in Thebes and Lemnos, but especially in Samothracia, an island consecrated to the Cabiri. All who were initiated into the mysteries of these gods, were thought to be secured thereby from storms at sea, and all other dangers. The obscenities which prevailed at the celebration have obliged the authors of every country to pass over them in silence, and say that it was unlawful to reveal them. These deities are often confounded with the Corybantes, Anaces, Dioscuri, &c., and according to Herodotus, Vulcan was their father. This author mentions the sacrilege which Cambyzes committed in entering their temple, and turning to ridicule their sacred mysteries. They were supposed to preside over metals.

These deities are represented on medals, as in the annexed figure of a man with a hammer in his right hand, and in his left an anvil, or something resembling.



CABLE, *n.* } Ara. *kabl*; Heb. *khabel*;
CA'LED, *adj.* } *καμλος*; Goth. *kadel*; Swed.
and Belg. *kabel*; Fr. *cable*. A thick rope for an anchor.

What though the mast be now blown overboard,
The cable broke, the holding anchor lost,
And half our sailors swallowed in the flood,
Yet lives our pilot still. *Shakespeare.*

The length of the cable is the life of the ship in all extremities; and the reason is, because it makes so many bendings and waves, as the ship, riding at that length, is not able to stretch it; and nothing breaks that is not stretched. *Raleigh.*

The cables crack; the sailors' fearful cries
Ascend; and sable night involves the skies. *Dryden.*

Self-flattered, unexperienced, high in hope,
When young, with sanguine cheer, and streamers gay,
We cut our cable, launch into the world,
And fondly dream each wind and star our friend.
Young's Night Thoughts.

Should we at least be driven by dire decree
Too near the fatal margin of the sea,
The hull distasted there awhile may ride,
With lengthened cables, on the raging tide.

Falconer's Shipwreck.

Hoarse o'er her side the rustling cable rings;
The sails are furled; and, anchoring, round she swings;
And gazing loiterers on the land, discern
Her boat descending from the latticed stern.

Byron's Corsair.

CABLE, the long thick rope, serving to hold ships firm at anchor, and to tow vessels in large rivers. In Europe, the cables are commonly made of hemp; in Africa, of long straw or rushes called bass; and in Asia, of a peculiar kind of Indian grass. Every cable, of whatsoever thickness it be, is composed of three strands; every strand of three ropes; and every rope of three twists; the twist is made of more or less threads, according as the cable is to be thicker or thinner. There are some cables, however, manufactured of four strands; which are chiefly the production of Italy and Provence. In the manufacture of cables after the ropes are made, they use sticks,

which they pass first between the ropes of which they make the strands, and afterwards between the strands of which they make the cable, to the end that they may all twist the better, and be more regularly wound together; and also, to prevent them from entwining or entangling, they hang, at the end of each strand and of each rope, a weight of lead or of stone. There is no merchant-ship, however weak, but has at least three cables; viz., the chief cable, or cable of the sheet anchor, a common cable, and a smaller one. All cables ought to be 120 fathoms in length; for which purpose the threads or yarns must be 180 fathoms, as they are diminished one-third in length by twisting. Besides this length, it is necessary to splice at least two cables together, in order to double the length when a ship is obliged to anchor in deep water. For although it is not common to anchor in a greater depth than forty fathoms, yet if there is only one cable, and the ship rides in a stormy and tempestuous sea, the anchor will of necessity sustain the weight and violent jerking of the ship, in a direction too perpendicular. By this effort it will unavoidably be loosened from its hold; whereas it is evident, that if the cable, by its great length, were to draw more horizontally on the anchor, it would bear a much greater force. A long cable is not so apt to break as a short one; because it will bear a great deal more stretching before it comes to the greatest strain; it, therefore, resembles a sort of spring, which may be very easily extended, and afterwards recovers its first state, as soon as the force which extended it is removed; and by increasing the radius of motion, the arch grows nearer to a right line, and consequently the change of place is made less sensible.

The number of threads each cable is composed of, is always proportioned to its length and thickness; and it is by this number of threads that its weight and value are ascertained; thus, a cable of three inches circumference, or one inch diameter, ought to consist of forty-eight ordinary threads, and to weigh 192 pounds; and on this foundation is calculated the following table, very useful for all people engaged in marine commerce, who fit out merchantmen on their own account, or freight them on the account of others:

Circumf.	Threads.	Weight.
3 inches	48	192 pounds.
4	77	308
5	121	484
6	174	696
7	238	952
8	311	1244
9	393	1572
10	485	1940
11	598	2392
12	699	2796
13	821	3284
14	952	3808
15	1093	4372
16	1244	4976
17	1404	5616
18	1574	6296
19	1754	7016
20	1943	7772

CABLE, SHEET ANCHOR, is the greatest cable belonging to a ship.

CABLE, STREAM, a hauser or rope, sometimes smaller than the bowers, and used to moor the ship in a river or haven, sheltered from the wind and sea, &c.

To serve or plait the CABLE, is to bind it about with ropes, clouts, &c. to keep it from galling in the hawse. *To splice the cable*, is to make two pieces fast together by working the several threads of the rope the one into the other. *Pay more Cable*, is to let more out of the ship. *Pay cheap the Cable*, is to hand it out apace. *Veer more Cable*, is to let more out, &c.

CABLED, CABLEE, in heraldry, a term applied to a cross formed of the two ends of a ship's cable; sometimes also to a cross covered over with rounds of rope; more properly called a cross corded.

CABO, or CAPO D'ISTRIA. See **CAPO D'ISTRIA**.

CABOCHED, in heraldry, is when the heads of beasts are borne without any part of the neck, full faced.

CABOLETTO, in commerce, a coin of the republic of Genoa, worth about 3d. of our money.

CABOT (Sebastian), the first discoverer of the continent of America, (see **AMERICA**, sect. 4.), was the son of John Cabot, a Venetian. He was born at Bristol in 1477; and, before he was twenty years of age, made several voyages. The first of any consequence seems to have been with his father, who had a commission from Henry VII. for the discovery of a north-west passage to India. They sailed in the spring 1497: and proceeding to the north-west, they discovered land, which for that reason they called *Prima-vista*, or Newfoundland. Another smaller island they called *St. John*, from its being discovered on the feast of *St. John Baptist*; after which they sailed along the coast of the American continent, as far as Cape Florida, and then returned with a good cargo, and three Indians to England. Thus the honor of the discovery of America is due to Cabot, not to Columbus, who did not begin his voyage till a year after that of Cabot. Sebastian, in 1517, sailed for the East Indies, but, after touching on the coast of Brasil, he shaped his course to Hispaniola and Porto Rico, where he carried on some trade, and returned to England. He soon after entered into the service of Spain, where he was made pilot-major, and entrusted with reviewing all projects for discoveries, which were then very numerous. His great capacity and approved integrity induced many eminent merchants to treat with him about a voyage by the newly discovered Straits of Magellan to the Moluccas. He therefore sailed in 1525, first to the Canaries, then to the Cape Verd islands; thence to *St. Augustine* and the island of *Patos*; when some of his people beginning to be mutinous, and refusing to pass through the Straits, he laid aside the design of sailing for the Moluccas; left some of the principal mutineers upon a desert island; and, sailing up the rivers of Plata and Paraguay, discovered, and built forts in, a large tract of fine country, that produced gold, silver, and other rich commodities. He thence despatched messengers to Spain for a supply of pro-

visions, ammunition, goods for trade, and a recruit of men; but his request not being readily complied with, after staying five years in America, he then returned home; where he met with a cold reception, the merchants being displeased at his not having pursued his voyage to the Moluccas, while his treatment of the mutineers had given umbrage at court. Hence he returned to England; and being introduced to the duke of Somerset, then Lord Protector, a new office was erected for him; he was made governor of the mystery and company of the merchant adventurers for the discovery of regions, dominions, islands, and places unknown; a pension was granted him, by letters patent of £166. 13s. 4d. per annum; and he was consulted on all affairs relative to trade. In 1522, by his advice, the court fitted out some ships for the discovery of the northern parts of the world. This produced the first voyage the English made to Russia, and the beginning of that commerce which has ever since been carried on between the two nations. The Russia Company was now founded by a charter granted by Philip and Mary; and of this company Sebastian was appointed governor for life. He is said to be the first who took notice of the variation of the needle, and who published a map of the world. The exact time of his death is not known, but he lived to be above seventy years of age.

CABRAL (Pedro Alvares), a Portuguese navigator, who commanded the second fleet which was sent to the Indies in 1500. He received the royal standard from the hands of the king, in the church of Belem, and the bishop of Viseu placed on his head a hat which had been blessed by the pope. In this voyage he was driven on that part of the coast of America now called Brasil, where he landed, and called the spot *Santa Cruz*. Thence he sailed to *Sofala*, on the coast of Africa, and next to *Calicut*, where he entered into a treaty with the zamorin; and in 1501 returned to Portugal, richly laden. He wrote an account of his voyage, which was published at Venice.

CABRILLA, in ichthyology, a species of perca, found in the Mediterranean sea, the body of which is marked with four longitudinal sanguineous bands.

CABRUSI, in the writings of the ancients, a word frequently used to express Cyprian, or coming from the island of Cyprus. The ancient Greeks had almost all their vitriols and vitriolic minerals from this island; they therefore called these cabrusi, without any addition. It is probable that our word *copperas*, the common name of green vitriol, is derived from this word.

CABUIA, a West Indian species of hemp, produced in Panama, from a plant resembling the chardon or iris; when ripe they lay it to steep in water, and after drying it, beat it with wooden mallets till nothing but the hemp remains, which they afterwards spin, and make thread and ropes of it; the former of which is so hard and tough, that with it they saw iron, by fitting it on a bar, and laying a little sand over the metal as the work proceeds.

CABUL, or GAROU, a city of Asia, and capital of the province of Cabulistan. It lies on the

frontiers of Great Bukharia, on the south side of the mountains which divide the former territories of the Mogul from that part of Great Tartary. It was one of the finest places in that part of the world; large, rich, and very populous. Being considered as the key of the great Mogul's dominions on that side, great care was taken to keep its fortifications in repair, and a numerous garrison was maintained for its security. It lies on the road between Samarcand and Lahore; and is much frequented by the Tartars, Persians, and Indians. The Usbec Tartars drive there a great trade in slaves and horses, of which it is said that no fewer than 60,000 are sold annually. The Persians bring black cattle and sheep, which renders provisions very cheap. The city stands on the river Attock, which falls into the Indus, and affords a speedy passage for all the rich commodities in the country behind it: which, when brought to Cabul, are exchanged for slaves and horses, and conveyed by merchants of different countries to all parts of the world. There has been a small Armenian colony here since the time of Nadir Shah, and among the most industrious of its inhabitants are the Hindoos. Cabul has several fine palaces and spacious caravanseras; and lies 680 miles north-west of Delhi. Long. 68° 58' E., lat. 34° 36' N.

CABUL, or CAUBUL. See CAUBUL.

CABURE, in ornithology, a small Brazilian bird of the owl kind; very beautiful, and easily tamed. It is brown, variegated with white, and is feathered down to the toes. The Brazilians keep it tame for its diverting tricks; it will play with people like a monkey, and is perfectly harmless.

CABURNS, *n. s.* Small ropes used in ships.

CACAGOGA, in ancient medicinal writers, a word used for certain ointments intended for rubbing on the fundament to procure stools. The most common of these was made of alum mixed with honey, and boiled till the whole was of a tawney color.

CACALIA, in botany, alpine colt's foot; a genus of the order polygamia aequalis, and class syngenesia. The receptacle is naked; the papus hairy; the calyx cylindrical, oblong and calyculated, or having a small calyx of very short scales only at the base. There are forty species. The principal are *C. ficoides*, a native of the Cape of Good Hope. It rises with strong round stalks to the height of seven or eight feet, woody at bottom, but soft and succulent upwards, sending out many irregular branches, garnished more than half their length with thick, taper, succulent leaves, a little compressed on two sides, ending in points, covered with a whitish glaucous farina, which comes off when handled. These, when broken, emit a strong odor of turpentine, and are full of a viscous juice; at the extremity of the branches, the flowers are produced in small umbels; they are white, tubulous, and cut into five parts at the top. The leaves are pickled by the French, who esteem them much. They have a method of preserving the white farina upon them, which adds greatly to the beauty of the pickle when brought to table. *C. kleinia*, with a compound shrubby stalk. It grows naturally in the Canary Islands, but has long been cultivated in the English gardens. It rises with

a thick fleshy stem, divided at certain distances into so many joints. Each of these divisions swell much larger in the middle than at each end; and the stalks divide into many irregular branches of the same form, which, toward their extremities, are garnished with long, narrow, spear-shaped leaves of a glaucous color, standing all round the stalks without order. As they fall off, they leave a scar at the place, which always remains on the branches. The flowers are produced in large clusters at the extremity of the branches, which are tubulous, and of a faint carnation color. They appear in August and September, but continue great part of October, and are not succeeded by seeds in this country. This plant has been called the cabbage tree, from the resemblance which the stalk of it has to the cabbage: others have entitled it the carnation tree, from the shape of the leaves and the color of the flowers. *C. suaveolens*, with a herbaceous stalk, a native of North America. It has a perennial creeping root, which sends out many stalks, garnished with triangular spear-shaped leaves, sawed on their edges, of a pale green on their under side, but a deep shining green above, placed alternately. The stalks rise to seven or eight feet, and are terminated by umbels of white flowers, which are succeeded by oblong seeds covered with down. It flowers in August, and the seeds ripen in October. The stalks decay in autumn, and new ones rise in spring. This plant multiplies greatly by its spreading roots, as well as by the seeds, which are spread to a great distance by the wind, their down greatly assisting their conveyance. The roots cast out of Chelsea garden, being carried by the tide to a great distance, have fixed themselves to the banks of the river, and increased so much, that in a few years this species may probably appear as a native of England.

CACALIE, in entomology, a species of chrysomela; of a greenish color, with a longitudinal blue streak on the wing-cases and blue suture; wings red. Inhabiting Austria.

CACAO, in botany. See THEOBROMA.

CACERES, an ancient town of Spain, in Estremadura, noted for the exceeding fine wood of the neighbourhood. It has four churches and seven religious houses, with a population of about 7000. It is thirty miles south-east of Alcantara, and thirty-five south-west of Placentia. Between this town and Broças, there is a wood, where the allies defeated the rear-guard of the duke of Berwick, April 7th, 1706.

CACHAO, KACHO, KECIO, or BACKHINK, a city of Tonquin, the capital of that kingdom, and formerly the residence of the sovereigns of that country. It is situated on the west side of the Songkoi, about eighty miles from the sea. The principal streets are wide, and paved with bricks and small stones; but intermediate spaces are left unpaved for the passage of elephants and other beasts of burden. The whole town, which is large and straggling, is surrounded by a bamboo hedge. The houses are a few of them constructed of brick, but the larger proportion of mud and timber, thatched with straw, leaves, or reeds. The royal palace is several miles in circuit, and surrounded by high walls. It contains

many extensive public and other buildings of handsome appearance, and the place is celebrated for its excellent police. Cachao is a place of great resort. The river is generally covered with the vessels of neighbouring nations, equaling in numbers, it is said, many of the most frequented European ports. It exports gold, beautiful silks of its own manufacture, and the finest lackered ware of the east. The imports are arms, chintz, long cloths, pepper, &c. Both the English and Dutch formerly had commercial establishments here, which have been withdrawn. On the opposite side of the river is Campez, a town of the Chinese. Cachao was set on fire by some incendiaries discharging arrows on the roofs in the middle of the eighteenth century, and immense damage ensued. Fires are now prohibited during the night, and permitted only during some hours of the day, under severe fines. It is supposed to contain 40,000 souls.

CACHAR, a province of the Burmhan empire, lying in 25° of N. lat., between Bengal and Ava. A communication exists by water to the centre of the province. Through Assam, and by land, the British intercourse with it is principally carried on from Silhet. The inhabitants are Hindoos, generally, of the Katri caste. The country is fertile, but overgrown in parts with jungle, and thinly peopled. In 1774 Oundaboo, the general of the Burmese, marched against the rajah of Cachar; who possessed the sovereignty of a productive though mountainous country, north-west of Munipoor, and advanced within three days march of Cospoor. Here he was opposed by Chawal, the rajah, leagued with the Gossain rajah; and his troops being attacked by the hill fever were all dispersed or cut off. A second expedition of the Burmese was more successful; and compelled the rajah to consent to pay, besides a sum of money, a maiden of the royal blood to the king of Ava, and a tree with the roots bound in the native clay, as an unequivocal token of homage.

CACHECTICAL, *adj.* } From *cachexy*;
 CACHECTICK. } having an ill habit
 of body; showing an ill habit.

Young and florid blood, rather than vapid and
cachectical. *Arbutnot on Air.*

The crude chyle swims in the blood, and appears as
 milk in the blood, of some persons who are *cachectic*.

Floyer.

CACHEF, or CACHEEF, in the Turkish affairs, the governor of a city, town, or province of Egypt. The title is also given to the commanders of little flying armies, intended to keep the Arabs in obedience.

CACHEFTECK, the government of a cachef. Egypt is divided by the Turks into thirty-nine of these governments.

CACHET, LETTRES DE, private letters or mandates, issued by the French monarchs under the royal signet, before the revolution, for the apprehension of individuals, who were obnoxious to the court, and who, in such cases, were generally lodged in the bastille without trial, and very often never more heard of. The late celebrated Mirabeau, who was himself many years a sufferer under this tyranny, wrote a learned and

spirited treatise, in four volumes, 8vo. on *Lettres de Cachet*.

CACHEXY, *n. s.* *Καχεξία*; a general word to express a great variety of symptoms: most commonly it denotes such a distemperature of the humors, as hinders nutrition, and weakens the vital and animal functions; proceeding from weakness of the fibres, and an abuse of the non-naturals, and often from severe and acute distempers. In Cullen's Nosology, cachexiæ forms a class of diseases, which includes three orders, namely, marcorres, intumescenciæ, and impetigines.

CACHINNATION, *n. s.* Lat. *cachinnatio*; a loud laughter.

CACHINNATIO, in medicine, an hysterical or maniacal tendency to immoderate laughter.

CACHLEX, in natural history, a name used by some authors for the small pebbles found on the sea and river shores, which being heated red hot, and quenched in whey, are said to have an astrigent virtue.

CACHOLONG; a variety of quartz. It is opaque, dull on the surface, internally, of a pearly lustre, brittle, with a flat conchoidal fracture, and harder than opal. Its color is milk-white, greyish, white, or yellowish. It is not fusible before the blow-pipe. Specific gravity 2.2. It is found in detached masses on the river Cach in Bukharia, in the trap rocks of Iceland, in Greenland, and the Ferroe islands. Brogniart states that this mineral is also found in the vicinity of Paris, in the cavities of a calcareous breccia, sometimes hard, with a shining fracture, at other times resembling chalk.

CACHRYS, in botany, a genus of the dyginia order, and pentandria class of plants; natural order forty-fifth, umbellate. The fruit is subovate, angled, and cork or spongy ringed. Species seven; chiefly natives of Sicily, and the Barbary coast. The principal species are, 1. *C. Hungaria*, with a plain fungous channelled seed; 2. *C. libanotis*, with smooth furrowed seeds; 3. *C. linearis*, with plain channelled fruit; 4. *C. Cretica*, with double winged leaves; 5. *C. odontalgica*, with leaves doubly pinnate, and lance-linear, pubescent leaflets; seeds quite smooth. The root is aromatic, and employed for the toothache, instead of that of the pyretherum, whence its specific name. The last two are natives of Siberia.

CACIRYS, or CANCHRYS, in ancient botany, denoted a scaly tuft, growing like a katkin on the oak, beech, pine, &c. or, according to others, an unseasonable kind of bud, appearing either in spring, or autumn, and which, after the winter is over, spreads or shoots into branches. The word is sometimes also used for the seed of rosemary, or even the plant itself; sometimes for barley roasted in a furnace, to render it more easy to grind.

CACHRYS, in entomology, a species of papilio hesperia, with entire wings of a yellowish color, with a brown border spotted with white. Found at Cayenne.

CACHUNDE, a medicine, highly celebrated among the Chinese and Indians, made of several aromatic ingredients, perfumes, medicinal earth, and precious stones. They make the whole into

a stiff paste, and form out of it several figures, according to their fancy, which are dried for use; these are principally used in the East Indies, but are sometimes brought over to Portugal. In China the principal persons usually carry a small piece in their mouths, which is a continued cordial, and gives their breath a very sweet smell. It is a highly valuable medicine, also, in all nervous complaints; and is esteemed a prolonger of life, and a provocative to venery, the two great intentions of most of the medicines in use in the East.

CACHYMIA, in metallurgy, a term used by Paracelsus for an imperfect metalline ore.

CACIQUES, a denomination anciently given by the original Americans to governors of provinces and generals of armies. It was also applied to the sovereigns of the five great native kingdoms of the island of Hispaniola, and also to the sovereigns in the other islands. Their power over the subject, which was hereditary, was absolute, and they were regarded with almost idolatrous veneration; there were also subordinate chieftains, or princes, who were tributaries to the sovereign of each district.

CACK'EREL, *n. s.* A fish, said to make those who eat it laxative.

CACKLE, *v. & n.* } *Swed. backla; Teut. kicheln; Bcl. kacckelen.*
CACK'ER, }
CACK'LING, *n.* } The noise of a hen after laying her egg; to cry like a cock or hen, or a goose; a cackler is one who noisily tells his own and others affairs; a tell-tale; a tattler.

And for these water-foulis tho began
 The gose to speke; and in her *cackelynge*,
 She said: Pece now, take kepe every man,
 And herken whiche reson I shal forth bring;
 My witte is sharpe, I love no taryng;
 I say, I rede him, though he were my brother,
 But she wil love him, let him love another.

Chaucer's Asseble of Foules.

The nightingale, if she should sing by day,
 When every goose is *cackling*, would be thought
 No better a musician than the wren. *Shakspeare.*

The silver goose before the shining gate
 There flew, and by her *cackle* saved the state.

Dryden.

The trembling widow, and her daughters twain,
 This woeful *cackling* cry with horreur heard
 Of those distracted damsels in the yard. *Id.*
 Nic grinned, *cackled*, and laughed, till he was like
 to kill himself, and fell a frisking and dancing about
 the room. *Arbutnot.*

This vaunting cross the mead she stalks,
 The *cackling* brood attend her walks.

Moore's Fables.

CACOCY'MICAL, *adj.* } From *cacochy-*
CACOCY'MICK. } *my*; having the
 humors corrupted.

It will prove very advantageous, if only *cacochy-*
mick, to clarify his blood with a laxative.

Harvey on Consumptions.

If the body be *cacochymical*, the tumours are apt to
 degenerate into very venomous and malignant abs-
 cesses. *Wiseman.*

The ancients writers distinguished putrid fevers, by
 putrefaction of blood, cholera, melancholy, and phlegm;
 and this is to be explained by an effervescence hap-
 pening in a particular *cacochymical* blood.

Boyer on the Humours.

CAC'OCYHMY, *n. s.* *Κακοχμία*; a depra-
 vation of the humors from a sound state, to what
 the physicians call by a general name of a ca-
 cochymy. Spots and discolorations of the skin,
 are signs of weak fibres; for the lateral vessels,
 which lie out of the road of circulation, let gross
 humors pass, which could not, if the vessels had
 their due degree of stricture.

Strong beer, a liquor that attributes the half of its
 ill qualities to the hops, consisting of an acrimonious
 fiery nature, sets the blood, upon the least *cacochymy*,
 into an orgasmus. *Harvey.*

CACODE'MON, } *Gr. κακος*, evil; and
CACODEMO'NIAL, } *δαίμων*, a demon. An evil
 or mischievous demon or spirit.

Nor was the dog a *cacode'mon*,
 But a true dog, that would show tricks
 For the' emperor, and leap o'er sticks.

Butler's Hudibras, part ii. canto 3.

CACODES, in ancient medical writers, a
 name given to matter discharged from the hu-
 man body, with an ill smell.

CACONGO, a small state of western Africa,
 bounded on the south by the Zaire, which sepa-
 rates it from Congo, and on the north by Loango.
 The country is mountainous, but fertile, and the
 climate less humid and hurtful to Europeans
 than that of Loango. The government is a
 limited monarchy; and on the death of the sove-
 reign, the most powerful or popular chief ascends
 the throne. Justice is administered by him in
 person, beginning usually at six in the morning,
 and continuing till eleven in the forenoon. He
 is said to solace himself at every judgment he
 delivers, with a draught of palm wine, without
 which the sentence would not be legal. All the
 principal inhabitants show a fondness for Euro-
 pean goods and customs, and many of them have
 their apartments furnished in the European style,
 with beds, chairs, plate, &c. The mambouc of
 Malemba, when visited by Degrandpré, had a
 cook whom he had sent to be trained in France.
 The chief port is Malemba, which is situate fifty
 miles south of Loango.

CACOORS, in botany, a species of mimosa.
 Its seeds have been thrown by the sea on the
 Hebrides and Orkneys.

CACOPHONIA; from *κακος*, evil, and *φωνη*,
 voice, a bad sound of words; in grammar and
 rhetoric, the meeting of two letters, or syllables,
 which yield an uncouth and disagreeable sound.

These things shall lie by, till you come to carp at
 them, and alter rhimes, grammar, triplets, and *caco-*
phonies of all kinds. *Pope to Swift.*

CACTI, in entomology, a species of coccinella
 with black wing-sheaths, and two red spots.
 Found on the cactus grandiflora of America.
 Also the name of a species of coccus.

CACTUS, in botany, a genus of the monog-
 gymia order, and icosandria class of plants;
 natural order thirteenth, succulentæ: *CAL.* is
 monophyllous, superior, imbricated; *cor.* poly-
 petalous; the fruit an uninocular, polyspermous
 berry. This genus has been well subdivided
 into 1. those of a roundish form, generally
 called melon-thistles; 2. creeping with lateral
 roots, commonly named cereuses; 3. erect,
 supporting themselves, and called torch-thistles;

4. compressed, with proliferous joints. Prickly pears, or Indian figs. The melon-thistles are plants of a singular structure, but especially the larger kinds of them; which appear like a large, fleshy, green melon, with deep ribs, set all over with strong sharp thorns; and, when the plants are cut through the middle, their inside is a soft pale-green fleshy substance, very full of moisture; the taste of which is agreeably acid. There are twenty-eight species, all natives of the West Indies. The three following are the most remarkable: viz. 1. *C. tuna*, proliferous jointed; the joints ovate-oblong; spines subulate, in clusters: flower large and yellow: a prickly pear; 2. *C. grandiflora*, one of the creeping cereuses. The flower of this species, though very short-lived, is said to be as grand and beautiful as any in the vegetable system: it begins to open in the evening about seven o'clock, and fades about four in the morning; so that the same flower only continues in perfection about six hours. The calyx when expanded is about a foot in diameter, of a splendid yellow within, and a dark brown without; the petals are many, and of a pure white; and the great number of recurved stamina, surrounding the style in the centre of the flower, make a grand appearance, to which may be added the beautiful scent which perfumes the air to a considerable distance. It flowers in July. 3. *C. opuntia*; the prickly leaves of this plant abound with a mucilaginous matter, which is esteemed in its native countries an emollient, in the form of poultice.

CACULE, in the materia medica, a name given by Avicenna, Serapion, and all the other Arabian writers, to the cardamom seeds. They distinguish two kinds of this fruit, a larger, and a smaller. The larger is the grain of paradise, and the smaller the common cardamom.

CACUMINATE, *v. a.* Lat. *cacumino*; to make sharp or pyramidal.

CACUS, in fabulous history, the son of Vulcan, an Italian shepherd upon mount Aventine. As Hercules was driving home the herd of king Geryon, whom he had slain, Cacus robbed him of some of his oxen, which he drew backward into his den lest they should be discovered, by their traces. Hercules at last finding them out by their lowing, killed Cacus with his club. The death of this monster is the subject of a fine episode in Virgil's *Æneid*. He was said to have been of prodigious bulk, half man, half satyr, and to have had three heads.

CACUS, in entomology, an Indian species of sphinx, having indented black wings, marked with three light streaks; posterior pair striated.

CAD' }
CAD'DIS, } A water insect, called the case
CAD'EW, } worm.

He loves the mayfly, which is bred of the cod-worm, or *caddis*; and these make the trout bold and lusty. *Walton's Angler.*

CADARI, or **KADARI**, from كادر, *cadara*, Arab. i. e. power; a sect of Mahomedans, who assert free-will, and deny all absolute predestination. The author of this sect was Mabel ben Kaled Al Gihoni, who suffered martyrdom for it.

CADAV'ER, } Lat. *cadaver*, from *cado*;
CADAV'EROUS, *adj.* } to fall, or fallen; a dead

body; having the qualities and appearance of a corpse.

In vain do they scruple to approach the dead, who livingly are *cadaverous*, for fear of any outward pollution, whose temper pollutes themselves.

Brown's Vulgar Errors.

The urine, long detained in the bladder, as well as glass, will grow red, fetid, *cadaverous*, and alkaline. The case is the same with the stagnant waters of hydropical persons.

Arbuthnot on Aliments.

Since, whilst a man is truly and properly said to live, many affections belong to his corporeal part, or are performed in it, or by it, that make this automaton called his body, much, and very advantageously differing from a mere *cadaver*.

Boyle's Christian Virtuoso, vol. vi. p. 748.

But scare away the vultures for an hour;

The scent *cadaverous* (for, oh! how rank

The stench of profligates!) soon lures them back.

Young. On Public Affairs.

CAD'DIS, *n.* This word is used in Erse for the variegated cloths of the Highlanders. It is also a kind of ferret or worsted lace of which garters were formerly made, *Caddis carter* is one of the epithets bestowed by prince Henry on the landlord.—1 *Henry IV.* ii. 4.

He hath ribbons of all the colours of the rainbow; inkles, *caddies*, cambricks, lawns; why he sings them over as if they were gods and goddesses. *Shakespeare.*

CAD'E' v. & n. } Old. Fr. *cader*, *cadeler*;
CAD'E', adj. } Ital. *caudicare*, *codicare*, from

Lat. *cauda*, to go after; and like Lat. *sequor*, to cherish; Fr. *cadeler*, to make ornamental tails to capital letters, signified afterwards to ornament; and thus *cadeau* was a tail, a flourish, a treat, and a suite. *Cade*, the substantive, *καδος*; Lat. *cadus*; Ital. *cado*, a small cask or barrel; the adjective is from Fr. *cadeler*, which signifies tame, soft, delicate, as a *cade lamb*, a lamb bred at home. Thus the verb and adjective agree; for to *cade* is to follow, attend, cherish; to breed up tenderly.

We, John Cade, so termed of our supposed father. —Or rather of stealing a *cade* of herrings. *Shakespeare.*

Soon as thy liquor from the narrow cells

Of close pressed husks is freed, thou must restrain

Thy thirsty soul; let none persuade to broach

Thy thick, unwholesome, undigested *codes*. *Philips.*

CAD'E (Jack), a native of Ireland (from which place he had been obliged to fly for his crimes), who, heading the Kentish men, who were then in commotion, drove the court from London, and took possession of the capital. Having seized and beheaded Lord Say and Sele, late high treasurer of England, and his son-in-law Sir James Cromer, sheriff of Kent, they proceeded to pillage the city; but they were soon driven out of it, and, failing in their attempts to repossess it, they agreed to a short truce. An amnesty being proclaimed to all who should return home, his followers fell off in great numbers. *Cade* first fled to Queenborough, but being refused admittance put on a disguise, and left his followers. A proclamation was immediately published, offering a reward of 1000 marks to any who brought him in, dead or alive. He was discovered lurking in a garden at Hothfield, in Sussex, by Alexander Eden, a gentleman of Kent, and, making some resistance, was killed, and his body was brought to London.

CADÉ-OIL, in the materia medica, a name given to an oil much in use in some parts of France and Germany. The physicians have called it *oleum cada*, or *oleum de cada*. This is supposed by some to be the *pissellæum* of the ancients, but improperly: it is made of the fruit of the *oxycedrus*, which is called by the people of those places *cada*.

CADENCE, *v. & n.* } Lat. *cado*, to fall;
CADENCY, } Fr. *cadence*; Ital. *cadenza*;
CAD'ENT. } Fr. *cadence*; Span. *cadencia*.
 To fall in sound; to any thing going down; declining; to the gradual gentle fall in a measure of poetry or music. It is sometimes used for the general modulation of the voice.

And natheless hath set thy wit,
 Although in thy hed ful lite is,
 To make bokes, songes and dities,
 In rime or elles in *cadence*,
 As thou best canst, in reverence
 Of love and of his servautes eke
 That have his service sought.

Chaucer's House of Fame.

Let it stamp wrinkles in her brow of youth,
 With *cadent* tears fret channels in her cheeks.

Shakspeare's King Lear.

The sliding, in the close or *cadence*, hath an agreement with the figure in rhetoric, which they call *præter expectatûm*; for there is pleasure even in being deceived. *Bacon.*

There be words not made with lungs,
 Sententious showers! O let them fall!
 Their *cadence* is rhetorical. *Crashaw.*

Hollow rocks retain

The sound of blustering winds, which all night long
 Had roused the sea, now with hoarse *cadence* lull
 Sea-faring men, o'erwatched. *Milton.*

Now was the sun in western *cadence* low
 From noon; and gentle airs, due at their hours
 To fan the earth, now waked. *Id.*

The words, the versification, and all the other elegancies of sound, as *cadences*, and turns of words upon the thought, perform exactly the same office both in dramatick and epick poetry. *Dryden.*

He hath a confused remembrance of words since he left the university; he hath lost half their meaning, and puts them together with no regard, except to their *cadence*. *Swift.*

Accept this token, Carteret, of good-will,
 The voice of nature, undebased by skill,
 These parting numbers, *cadenced* by my grief,
 For thy loved sake, and for my own relief,
 If aught, alas! thy absence may relieve,
 Now I am left, perhaps, through life to grieve.

Philips. To Lord Carteret.

It is very observable, that though the measure is the same in which the musical efforts of Fear, Anger, and Despair, are described, yet, by the variations of the *cadence*, the character and operation of each is strongly expressed.

Commentary on Collins' Ode on the Passions.

If we would keep up the attention of the reader or hearer, if we would preserve vivacity and strength in our composition, we must be very attentive to vary our measures. This regards the distribution of the members, as well as the *cadence* of the period.

Blair's Lectures.

CADENCE, in reading, from *cadere*, Lat. to fall, is a falling of the voice below the key-note at the close of every period. In reading, whether prose, or *versé*, a certain tone is assumed which

is called the key-note; and in this tone the bulk of the words are sounded; but this note is generally lowered towards the close of every sentence.

CADENCE, or **REPOSE**, in music, the termination of an harmonical phrase on a repose, or on a perfect chord. See **MUSIC**.

CADENCE DU DIABLE, the devil's cadence, a shake of an extraordinary effect: it is made on the violin, by beating the little finger on a note held by the third finger, whilst the two first execute different notes upon the next string. Its invention is attributed to Tartini, who, as it is said, receiving a lesson from the devil in a dream, was taught to perform this cadence.

CAD'ET, } Fr. *cadet*; Ital. *caudata*, co-
CAD'ETSHIP. } *dato*, *cardeto*, from Lat. *cauda*,
 Fr. *queue*, retinue, suite, may have had the same origin with Lat. *sequor* and *secundus*. Its primary application is to a younger brother, or to the youngest. It is now used to designate a volunteer in the army without a commission; a follower. It is specially appropriated to young gentlemen sent out to India by the East India Company to seek their fortunes in the military profession.

Joseph was the youngest of the twelve, and David the eleventh son, and the *cadet* of Jesse.

Browne's Vulgar Errors.

CAD'ET is a word naturalised in our language from the French. At Paris the cadets had an equal patrimony with the rest, before the revolution. At Caux, in Normandy, the custom was to leave all to the eldest, except a small portion to the cadets. In Spain it is usual for one of the cadets in great families to take the mother's name.

CAD'ET, in military language, is a young gentleman who applies himself to the study of fortification, gunnery, &c. and who sometimes serves in the army, with or without pay, till a vacancy happens for his promotion. There is a company of gentlemen cadets maintained at Woolwich, at the king's expense, where they are taught all the sciences necessary to form a complete officer. Their number has lately been increased, and commissions are given to them when qualified. A cadet in the French service, did not receive any pay, but entered as a volunteer in a troop or company, for the specific purpose of becoming master of military tactics.

CADGE', *v. 2* Teut. *kautser* and *kaupster*, a **CADGE'ER**, *n.* } dealer are cognate with chapman; but Teut. *ketscher*, is a carrier. Thus a cadger is a higgler, a huckster, and seller of goods. Archdeacon Nares observes:

A round frame of wood, on which the *cadgers* or sellers of hawks carried their birds for sale. See Bailey: and *cadger* is also given, as meaning a huckster, from which the familiar term *cadger* is more likely to be formed, than from any foreign origin.

CADI, or **CADHI**, קדי, קאדי, Arab. i. e. a judge; in the Turkish empire, is generally taken for the judge of a town; judges of provinces being distinguished by the appellation of *moulas*. There are numerous complaints of the avarice, iniquity, and extortion of the Turkish *cadis*; all justice is venal; the people bribe the *cadis*, the *cadis* bribe the *moulas*, and the *moulas* the *cadis*.

teschers, and the cadileschers the mufti. Each *cadi* has his serjeants, who summon persons to answer complaints. If the party summoned fails to appear at the hour appointed, sentence is passed in favor of his adversary. It is usually vain to appeal from the sentences of the *cadi*, as the cause is never heard a-new, but judgment is passed on the case as stated by the *cadi*. But the *cadis* are often cashiered and punished for flagrant injustice, with the *bastinado* and *muets*; the law, however, does not allow them to be put to death. Constantinople has had *cadis* ever since 1390, when Bajazet I. obliged John Paleologus, emperor of the Greeks, to admit *cadis* to judge all controversies that occurred between the Greeks and the Turks settled there. In some countries of Africa the *cadis* are also judges of religious matters. Among the Moors, *cadi* is the denomination of their higher order of priests or doctors, answering to the rabbies among the Jews.

CADIA, in botany, a genus of plants of the class *decandria*, and order *monogynia*: *cal.* five-cleft; petals equal, inversely heart-shaped; legume polyspermous. Species one only; a native of Arabia Felix, with solitary, axillary, one or two-flowered peduncles, of a purple hue.

CADILESCHER, or **CADILESKER**, a capital officer of justice among the Turks, answering to a chief justice among us. It is said that this authority was originally confined to the soldiery; but that at present it extends to the determination of all kinds of law-suits; only it is subject to appeals. There are but three *cadileschers* in all the grand seignior's territories, viz. 1st of Europe; 2d of *Natolia*; and 3d at Grand Cairo. This last is the most considerable. They have their seats in the *divan* next to the grand vizier.

CADIZ, a city and sea-port of Spain, in Andalusia, supposed to have been founded by the Phœnicians; who settled a colony here, and gave it the name of *Gadis*, or *Gadira*. It was afterwards incorporated by the Roman empire, under the title of *Municipium*. It then fell into the hands of the Saracens, who held it till the middle of the thirteenth century, when it was recovered by the Spaniards. In 1596 it was taken and plundered by the English, under the earl of Essex; and the attempt was repeated by the duke of Ormond in 1702, but after landing his troops he found it impracticable to remain. During the dreadful earthquake which demolished Lisbon on the 1st of November, 1755, the sea rising in an extraordinary manner, overflowed the country about Cadiz to a great extent, and by its leaving behind it wrecks, which appeared to have belonged to a temple, a tradition that the ancient city of Cadiz was once swallowed by an earthquake, appeared to be confirmed. It is certain that the sea without the straits of Gibraltar has encroached upon the land. It is said, that in very calm weather, when the tide is low, the ruins of the old houses, and the remains of the temple of Hercules, may sometimes be discerned under the water. The view on entering the bay is exceedingly fine: on one extremity of the left point is the town of Rota, a little farther off appear the castle of *Catalina* and the neat city of *Santa Maria*; at a

greater distance, on the lap of a lofty hill, stands *Medina*; nearer the sea the town of *Puerto Real* and the arsenal of the *Caraccas*; and on the extremity of the right hand point the city of *Cadiz*. When this extensive bay is filled as it sometimes is with the vessels of different nations, displaying their respective colors amidst a forest of masts, the whiteness of the houses, their size and apparent cleanliness, the magnificence of the public edifices, and the neat and regular fortifications, form together a most striking assemblage of objects. Opposite *Cadiz* the land has little appearance of verdure; and, except the vineyards near *Santa Maria* and *Rota*, all is brown and barren.

The best houses have brick floors and stone or marble stairs; and, the windows generally looking into the patio or court, are private and retired; and under the house is a cistern, which, in the rainy season, is filled with water. But good water is very scarce here: they usually prefer drinking that which is brought in casks, by boats, from *St. Mary's*. To cool this water, and render it fit for drinking, they filter it through small jars of porous clay, which renders it very pleasant and refreshing. The richer inhabitants use water cooled with ice, which is brought daily in large quantities, from the mountains of *Ronda*, and in this climate is a great luxury. Every dwelling is a sort of separate fort, and capable of military defence. The streets of this city are remarkably well paved, which may in some measure arise from there being few or no wheel-carriages to destroy the pavement. Coaches are not in use, and most of the streets are too narrow to admit them. Carts for the conveyance of goods are also almost unknown. The *Gallegos*, or natives of *Gallicia*, a strong and industrious race of men, perform those laborious occupations for which, in other cities, horses and carts are employed. By the help of poles on their shoulders these men remove the heaviest articles with the utmost facility; and being frugal, as well as industrious, execute their tasks at a cheap rate. Every large town in Spain is filled with them: a man from any other part of Spain, following the occupation of a porter, is from custom called the *Gallego*, a name at present implying the occupation as well as the country. The entrances of the houses are the receptacles of every kind of filth; and, except in those belonging to the houses of the richer class, who keep a *Gallego* sitting at the door, you are almost suffocated by stench before you reach the apartments. This city, placed on a peninsula, at the termination of a long sandy isthmus, has no unoccupied ground, and can spare little for squares. The *Plaza de St. Antonio* is the only one and is very small; but being surrounded with magnificent houses, and contrasted with the streets, all of which with one exception are very narrow, it has a good effect, and is the principal resort of the inhabitants. To the ladies it is the mall; to the merchants the exchange; and to the officers, the parade. The *Alameyda*, or public walk, is very beautiful; always dry under foot, and furnished with good marble seats on both sides; being close to the sea, the trees do not thrive, and indeed afford very little shade: the cool sea

breeze is however enjoyed towards evening, and the walk is then crowded with good company. The whole of the ramparts that surround the city are also agreeable promenades, from which the sea breaking over the rocks, and the varied scenery of the bay, form a charming prospect.

Cadiz is defended by four forts, St. Sebastian, St. Catherine, Louis, and Matagorda; the two last form the defence of the grand arsenal called La Caraccas, in which there are no less than three basins, and twelve docks, with ample supplies of naval stores. The bay is the grand rendezvous of the Spanish navy. An insulated tract at the mouth of the river Guadalete is called the island of Leon, and the city stands at the extremity of a long tongue of land, projecting in a north-west direction from this island, communicating with the rest of it by a road nearly five miles in length. It is surrounded, therefore, by the sea on the north-east and west, which, with the narrowness of the land communication, prevents its capture by a military force, so long as its possessors are masters of the sea. This was strikingly exemplified in the long blockade of 1810, 1811, and 1812.

Among the public buildings, the old cathedral is chiefly remarkable for its paintings, most of which are copies; and its treasures, which consist of gems, many large silver candlesticks and lamps, and three custodias, one of which is constructed of the finest silver, weighing fifty-one arobas, and another of solid gold. The church of the capuchins, the church of the oratory, and some of the convents, also contain some fine pictures. The best collections, however, are to be found in the possession of private individuals.

In the garden of the convent of the capuchins, Mr. Jacob saw a tree, which he considered to be the only one of the kind in Europe; it yields the resinous gum called Dragon's blood. He was informed that it came originally from the East Indies. A new cathedral has been erecting ever since 1722, and, if ever finished, will be a most magnificent edifice. But the labor of many years is as yet required to complete it. The chief expense has been hitherto defrayed by the Consulado, or body of merchants, which have expended upwards of a million of dollars. It is of white marble, but towards the sea the saline particles have changed it to a brown color; the marble Corinthian pillars within are very handsome; the dome designed to occupy the centre is not begun, and the interior has been for many years a heap of rubbish. The asylum, or general work-house, maintains above 800 paupers of every nation, age, or sex, who are instructed and employed in useful arts. The boys are employed in manufacturing silk, linen, cotton, and printed calicoes; the girls in spinning, in needle-work, and in household business; and the aged and infirm work according to their abilities and strength. It was greatly improved by count O'Reilly in 1785, but it degenerated after his resignation. It is a handsome building, with Doric columns, and a front of 260 feet; has several courts; and round the principal one is a gallery with sixteen columns of the Doric order. The other charitable institutions are; the royal military hospital, which accommodates eighty

students, who are maintained and educated at the king's expense; two hospitals for the sick, one set apart for each sex; and an asylum for forty-seven widows, founded by a Turkish merchant.

The manufactures are few, being confined to ribbons and silk net-work; but its commercial industry is great. It is unquestionably the principal trading port in the south of Spain, and was long the seat of the public board for American affairs: there has been here also an East India Company since 1782. The American trade was a monopoly until 1778; what it afterwards became, it now avails little to state: in 1791, which may be considered an average year, the imports from America amounted in gold and silver to £5,500,000 sterling; the number of vessels arriving from that quarter were 176, and the total number of ships that entered the port was 1010. The imports from America, exclusive of gold and silver, were cocoa, tobacco, sugar, chocolate, vanilla, and all kinds of colonial produce. The exports to that quarter, hardware, linen, (Silesian and Irish), and woollens, along with wine, oil, almonds, raisins, wax, cinnamon, paper, books, and medicines. But the changes and revolutions at home, and the loss of the colonies, have annihilated large portions of this trade. There are still, however, few great sea-ports in Europe that are not occasionally connected with Cadiz; and English, Irish, Italian, French, and Dutch merchants are established here. The common period for bills of exchange with England, Holland, Germany, and other foreign countries, except France, is sixty days date. Smuggling is also a profitable, and by no means a decreasing pursuit. Linen is manufactured in the country adjoining in considerable quantity; and an important branch of industry is carried on in the neighbourhood, in the preparation of salt. The pits extend from the bay of Puntal to Santa Maria, and belong to the Spanish government. Fishermen from all the maritime countries of Europe; but especially from the neighbouring coasts of Normandy, are constantly coming in here for supplies of this article.

Cadiz has often been an object of attack by Great Britain. In 1596 the earl of Essex and the lord high admiral Howard pillaged this city: thirty years afterwards lord Wimbledon landed an army of 10,000 men here: but though it was supported by a fleet of eighty ships it re-embarked after storming a fort. In 1702 the duke of Ormond and Sir George Rooke attempted to seize the city for the archduke Charles of Austria, but failed in the object. We bombarded Cadiz in 1800; and from this port sailed the combined fleets of France and Spain in 1805, to be the final trophies of lord Nelson's fame in the battle of Trafalgar. Here, in 1808, the French fleet surrendered to the Spaniards; and next year, when Seville fell into the hands of the French, Cadiz became the first seat of the central Junta, and of the Cortes. It now sustained the long French blockade, from which it was not relieved until the battle of Salamanca. The civil government of Cadiz is in the hands of a king's lieutenant and commandant; and a mayor and two alcaides. It is a bishop's suffragan of Seville, and contains

twenty-eight parishes, and is the seat of a captain, general, and other officers of marine. The population has fluctuated of late years from 60,000 to 20,000. It is forty-five miles north-west of Gibraltar, and sixty south-west of Seville.

CADIZADELITES, a sect of Mahomedans, very like the ancient Stoics. They shun feasts and diversions, and affect an extraordinary gravity in all their actions; they are continually talking of God, and some of them make a jubilee of Christianity and Mahomedanism.

CADMEAN LETTERS, the ancient Greek or Ionic characters, such as they were first brought by Cadmus from Phœnicia; whence Herodotus also calls them Phœnician letters. Some say, that Cadmus was not the inventor, nor even the importer of the Greek letters, but only the modeller and reformer of the alphabet; and hence they acquired the appellation of Cadmean or Phœnician letters; whereas before that time they had been called Pelasgian.

CADMIA, in pharmacy, a name which has been variously applied; but it usually denotes a mineral substance, whereof there are two kinds, natural and artificial.

CADMIA ARTIFICIAL, **CADMIA FORNACUM**, or **CADMIA OF THE FURNACES**, is a matter sublimed when ores containing zinc, like those of Rammelsberg, are smelted. This cadmia consists of the flowers of the semi-metal sublimed during the fusion, and adhering to the inner surfaces of the walls of furnaces, where they suffer a semi-fusion, and therefore acquire more solidity. So great a quantity of these are collected, that they form very thick incrustations, which must be frequently taken off. The name has also been given to all the soots and metallic sublimates formed by smelting in the grate, although there is certainly a difference in these matters. Ancient chemists distinguished five kinds of cadmia fornacum, viz. *C. botrytis*, resembling a bunch of grapes, which is found in the middle of the furnace. *C. calamitis*, found hanging round the iron rods, with which the matter is stirred in the furnace, and generally in the form of quills; whence the name from *calamus* a quill. It is reckoned desiccative and detersive, and is used to cicatrize ulcers. *C. capnitis*, found at the mouth of the furnace. It is used by some in diseases of the eyes. *C. ostracitis*, found at the bottom of the furnace in the form of a sea shell. *C. facitis*, found at the top of the furnace, in the form of a crust. It is also used by some in diseases of the eyes.

CADMIA, NATURAL, is of two sorts; the one containing arsenic, and called *cadmia fossilis*, or *cobalt*; the other containing zinc, called *calamine*, or *lapis calaminaris*. See **CALAMINE**. Cadmia is also used by Pliny for copper ore, or the stone of which copper is made.

CADMITES, in natural history, a kind of gem, nearly resembling the ostracites; from which it only differs in that the latter is sometimes girt with blue spots.

CADMIUM, in mineralogy, a new metal first discovered at Hanover in 1817, by Mr. Stromeyer, in carbonate of zinc. He obtains it in the following manner:—Dissolve the substance which contains cadmium in sulphuric acid, and pass through

the acidulous solution a current of sulphuretted hydrogen. Wash this precipitate, dissolve it in concentrated muriatic acid, and expel the excess of acid by evaporation. The residue is then to be dissolved in water, and precipitated by carbonate of ammonia, of which an excess must be added, to redissolve the zinc and the copper that may have been precipitated by the sulphuretted hydrogen. This carbonate of cadmium, being well washed, is heated, to drive off the carbonic acid, and the remaining oxide reduced by mixing it with lamp-black, and exposing it to a moderate red heat in a glass or earthen retort. Dr. Wollaston's process is preferred for its precision and the facility with which it yields the metal; we subjoin it from Dr. Ure. 'From the solution of the salt of zinc supposed to contain cadmium, precipitate all the other metallic impurities by iron; filter and immerse a cylinder of zinc into the clear solution. If cadmium be present it will be thrown down in the metallic state, and, when redissolved in muriatic acid, will exhibit its peculiar character on the application of the proper tests.' Mr. W. Herapath states that he has obtained it in quantities from the soot collected in the zinc works at Bristol. The metal is obtained by dissolving this substance in muriatic acid, filtering, evaporating to dryness, redissolving and filtering, then precipitating by a plate of zinc. The cadmium thrown down is to be mixed with a little lamp-black or wax, put into a black or green glass tube, and placed in the red heat of a common fire, until the cadmium has sublimed into the cool part of the tube; then the residuum is to be shaken out, which is easily done without loss of cadmium. A little wax introduced into the tube, and a gentle heat applied, the metal melts, and by agitation forms a button.

The color of cadmium is a fine white, with a slight shade of bluish-gray, very similar to that of tin; which metal it also resembles in lustre and susceptibility of polish. Its texture is compact, and its fracture hackly. It crystallises in octohedrons, and presents when cooling the appearance of leaves of fern. It is flexible, and yields readily to the knife; but is harder and more tenacious than tin; and, like it, stains paper. It is ductile and malleable, but when long hammered it scales off in different places. Its specific gravity is 8.6040. It melts, and is volatilised under a red heat. Its vapor, which has no smell, may be condensed in drops, which, on congealing, present distinct traces of crystallisation. When heated in the open air, it burns like tin, passing into a smoke, which falls and forms a very fixed oxide, of a brownish-yellow color. Nitric acid readily dissolves it cold; dilute sulphuric, muriatic, and even acetic acids, act feebly on it with the disengagement of hydrogen.

Cadmium forms a single oxide, in which 100 parts of the metal are combined with 14.352 of oxygen. The prime equivalent of cadmium deduced from this compound seems to be very nearly 7, and that of the oxide 8. This oxide varies in its appearance according to the circumstances, from a brownish-yellow to a dark brown, and even a blackish colour. With charcoal it is reduced with rapidity below a red heat. It gives a transparent colorless glass bead with borax.

The fixed alkalies do not dissolve the oxide of cadmium in a sensible degree; but liquid ammonia readily dissolves it. On evaporating the solution, the oxide falls in a dense gelatinous hydrate. With the acids it forms salts, which are almost all colorless, have a sharp metallic taste, and are generally soluble in water. Cadmium also unites easily with most of the metals, when heated with them out of contact of air. Most of its alloys are brittle and colorless.

CADMUS, in fabulous history, king of Thebes, the son of Agenor, king of Phœnicia, and the brother of Phœnix, Cilix, and Europa. He carried into Greece the sixteen simple letters of the Greek alphabet; and there built Thebes, in Bœotia. The poets say, that he left his native country in search of his sister Europa, whom Jupiter had carried away in the form of a bull; and that, enquiring of the Delphic oracle for a settlement, he was answered, that he should follow the direction of a cow, and build a city where she lay down. Having arrived among the Phocenses, he was met by a cow, who conducted him through Bœotia to the place where Thebes was afterwards built: but as he was about to sacrifice his guide to Pallas, he sent two of his company to the fountain of Dirce for water. The waters were sacred to Mars, and guarded by a dragon, which devoured all the Phœnician attendants. Cadmus tired of their seeming delay, went to the place, and saw the monster still feeding on their flesh. He attacked the dragon, and overcame it by the assistance of Minerva, and sowed the teeth in a plain, upon which armed men suddenly rose up from the ground. He threw a stone in the midst of them, and they instantly turned their arms one against the other, till all perished except five, who assisted him in building his city. Soon after, he married Hermione the daughter of Venus, with whom he lived in the greatest cordiality, and by whom he had a son, Polydorus, and four daughters, Ino, Agave, Autonoe, and Semele. Juno persecuted these children; and their well-known misfortunes so distracted Cadmus and Hermione, that they retired to Illyricum, loaded with grief, and infirm with age. They entreated the gods to remove them from the misfortunes of life, and they were immediately changed into serpents. Some explain the dragon's fable, by supposing that it was a king of the country whom Cadmus conquered by war; and the armed men rising from the field, is no more than men armed with brass, according to the ambiguous signification of the Phœnician word. Cadmus was the first who introduced the use of letters into Greece; but some maintain, that the alphabet which he brought from Phœnicia, was only different from that which was used by the ancient inhabitants of Greece. This alphabet consisted only of sixteen letters, to which Palamedes afterwards added four, and Simonides of Melos the same number. The worship of many of the Egyptian and Phœnician deities was also introduced by Cadmus, who is supposed to have come into Greece 1493 years before the Christian era, and to have died sixty-one years after. According to those who believe that Thebes was built at the sound of Amphion's lyre, Cadmus built only a

small citadel, which he called Cadmea, and laid the foundation of a city which was finished by one of his successors.

CADOGAN (William Bromley), M.A. was the second son of the first earl Cadogan, and born in 1751. He was educated at Westminster-school, whence he removed to Christ-Church, Oxford, where he took the degree of B.A. and entered into orders. In 1774 lord chancellor Bathurst gave him the vicarage of St. Giles, Reading; soon after which he was presented to the rectory of Chelsea. He was a most indefatigable parish minister and priest, and died much esteemed in 1797. He published some single sermons; and after his death his Discourses, Letters, and Memoirs were collected by Mr. Cecil. See *Cecil's Life of Cadogan*.

CADOGAN (William), M.D. was educated at Oriel College, Oxford, where he took his degree of M.A. in 1755; and the same year was made doctor of physic. He became a fellow of the college, before which he delivered two Harveian orations. Dr. Cadogan became famous for prescribing an abstemious regimen in the gout, in Dissertations on that disorder, 8vo. 1764. He also published a treatise on the Management of Children, and died in 1797, aged eighty-six.

CADORE, a town of the Venetian territory, in the district of the Cadurin, on the frontier of the Tyrol, near the Piave. It carries on a traffic in iron and the timber of the district, which is abundant in those productions. The Austrians were defeated here by the French in 1797. In 1806 Bonaparte created Cadore into a duchy, whose possessor had a revenue of 60,000 francs, or £2,500 sterling. It was bestowed, in 1809, on his minister Champagny. Titian was a native of this place. It is fifteen miles north of Belluno, forty-two north-east of Trent, and fifty-three west of Friuli, the district is said to contain 22,000 inhabitants.

CADSAND, a small town and insulated tract of Flanders, formed by the sea, the Wester Scheldt, and other rivers and canals. It belongs to the district or 'free land' of Sluys, consisting of drained marshes: it is very fruitful in corn, and the pasture is excellent. High embankments, constructed at a vast expense, defend it generally from the sea, but hardly sufficient in north-west winds. The Dutch by means of possessing this island command the navigation of the Scheldt. It was taken by the French on the 29th July, 1794; and occupied for a while by our army in the unfortunate Walcheren expedition. The town is two miles north-west of Sluys.

CADUCEUS, in ancient mythology, Mercury's rod, a wand entwisted by two serpents, and furnished with wings, as in the annexed figure. It was given to him by Apollo, for his seven-stringed harp. The caduceus afforded him the power of bringing souls out of hell, and also to cast any one into sleep. In Roman antiquity it was used as a symbol of peace and concord. The Romans sent the Carthaginians a javelin and a caduceus, offering them their choice either of war or peace. Those who de-



nounced war were called *feciales*; and those who went to demand peace *caduceatores*, because they bore a *caduceus* in their hand. The *caduceus* on medals is a common symbol, signifying good conduct, peace, and prosperity. The rod expresses power, the two serpents prudence, and the two wings diligence.

CADUCL, in botany, to fall, the name of a class in Linneus's *Calycina*, consisting of plants whose calyx is a simple perianthium, supporting a single flower or fructification, and falling off either before or with the petals. It stands opposed to the classes *persistentes*, and is exemplified in *mustard* and *ranunculus*.

CADURCUM, **CADURCUS**, or **CADURX**, in ancient geography, a town of Aquitania; situated between the river *Oldus*, running from the north, and the *Tarnis* from the south, and falling into the *Garumna*; now called *Cahors*.

CADUS, in antiquity, a wine-vessel, containing eighty *amphoræ* or *firkins*; each of which, according to the best accounts, held nine gallons, though some make them only seven. See **AMPHORA**.

CÆCILIA, in zoology, a genus of serpents belonging to the *amphibia* class. The *cæcilia* has no scales; it is smooth, and moves by means of lateral *rugæ* or prickles. The upper lip is prominent, and furnished with two *tentacula*. It has no tail. There are only two species, viz. 1. *C. glutinosa*, with 340 *rugæ* or prickles above, and ten below, the anus. It is of a brownish color, with a white line on the side, and is a native of the *Indies*, and *South America*. 2. *C. tentaculata*, with 135 *rugæ*. It is about a foot long, and an inch in circumference, preserving a uniform cylindrical shape from the one end to the other. The teeth are very small. It has such a resemblance to an eel that it may easily be mistaken for one; but, as it has neither fins nor gills, it cannot be classed with the fishes. It is a native of *America*, and its bite is not poisonous.

CÆCULUS, a son of *Vulcan*, conceived, as some say, by his mother, when a spark of fire fell into her bosom. He was called *Cæculus*, because his eyes were small. After a life spent in plundering and rapine, he built *Præneste*: but being unable to find inhabitants, he implored *Vulcan* to show whether he really was his father. Upon this a flame suddenly shone among the multitude who were assembled to see some spectacle, and they were immediately persuaded to become the subjects of *Cæculus*. *Virg. Æn.* 7, v. 680, says that he was found in fire by shepherds, and on that account called son of *Vulcan*, who is the god of fire.

CÆCUM, or **CÆCUM**, the blind gut, so called from its being perforated at one end only. The first portion of the large intestines, placed in the right iliac region, about four fingers' breadth in length. It is in this intestine that the ileum terminates by a valve, called the valve of the *cæcum*, and the *appendicula cæci vermiciformis* is also attached to it. See **ANATOMY**.

CÆLEBS, in entomology, a species of *cimex*, of brownish gray color, with three points on the scutellum, and a yellowish apex. First found in *New Holland*.

CÆLUS, in the Pagan mythology, the god

of the heavens, was represented as the son of *Æther* and *Dies*, the father of *Saturn* and *Ops*, and progenitor of all the gods.

CÆMENT. See **CEMENT**.

CÆMENTUM, in *oryctology*, a genus of argillaceous earths, consisting of iron, alumine, a large quantity of silica, and generally a small portion of carbonate of lime; hardish, lightish, and porous; of an earthy texture; imbibing water with a hissing noise; crackling when dried, rough; without lustre: when powdered and beaten up with water and quicklime, becoming so hard as not to be penetrated by water; easily melting in the fire into a black scoria. Three species. 1. *C. tufa*. *Tufa*, *Tuffwacke*. Collected into entire cliffs, and vast strata about volcanic mountains. Found particularly about *Naples* and *Rome*. It is commonly magnetic, of an earthy fracture, and not easily decomposed by the action of the air. 2. *C. tarras*. *Trass*. Forming large strata under the surface of the common soil. Found on the banks of the *Rhine*; principally near *Andernach*, and on mount *Vogelberg*, some feet under the surface, where streams of water have not had access; dull, gray or blackish, rarely variegated. When pounded, it makes the best cement for buildings under water. 3. *C. columnare*. *Prismatic cement*. There are two varieties; the prisms being sometimes five and sometimes six-sided. Found on the banks of the *Rhine*, and sometimes near the base of mount *Ætna*, in columnar masses of a gray color, close to each other, and forming internally the common mass.

CAEN, a considerable town in France, in the department of the *Calvados*, and *ci-devant* province of *Lower Normandy*, of which it was the capital. It has a celebrated university, founded in 1431, by our *Henry VI.*, and an academy of literature; and contains twelve parish churches, and about 40,000 citizens. It has also a castle which was built by the English. The town is built chiefly of a white stone, which, though not durable, is of beautiful appearance, and the streets are wider than those of most French towns. The principal squares are the *Place Royal*, and the *Place St. Sauveur*. In the former is the *Hotel de Ville*, a public library, and the *Musée des Arts*. Our *William the conqueror*, who was buried here, built the *Abbaye aux Hommes*; which is a noble, though rather plain structure. The *Palais de Justice* is a handsome modern building. *Malherbe* was born here, and *Iluet*, bishop of *Avranches*. There is a considerable trade carried on at *Caen* in linen, lace, stockings, caps, and serges, of home manufacture, as well as in cattle, horses, dye stuffs, cider, and skins. The town is but eight miles from the sea, and has a good communication with it by the river *Orne*, which vessels of 160 tons burden can ascend with the tide. The neighbourhood is pleasant and fertile, but flat. *Edward III.* was stoutly resisted here in 1346; but the English took *Caen* in 1417, and retained it thirty-one years. It is sixty-two miles west by south of *Rouen*, and 132 west by north of *Paris*. Long. 0° 27' W., lat. 49° 11' N.

CÆRE, in ancient geography, a town of *Etruria*, the royal residence of *Mezentius*. Its an-

cient name was Argyllæ. In Strabo's time not the least vestige of it remained, except the baths called Cæritana.

CERITES *TABULÆ*, the tables of the Roman censors. In these were entered the names of such as for some misdemeanor forfeited their right of suffrage, or were degraded from a higher to a less honorable tribe. They were so named from the people of Cære, who hospitably receiving the Romans after the taking of Rome by the Gauls, were, on the Romans recovering their city, honored with all the privileges of citizens, except the right of voting.

CAERMARTHEN. See **CARMARTHEN**.

CAERNARVON. See **CARNARVON**.

CAERLION, an ancient market town of Monmouthshire, on the Usk, over which is a handsome stone bridge, is said to have been a residence of one of the British kings, and was at a very early period distinguished for its ecclesiastical and literary foundations. Its name signifies the fort or town of Leon. By the Romans it was called Isca, Isca Colonia, and Civitas Legionis II. Augustæ. In order to distinguish it from Exeter, which was likewise called Isca, it was also denominated Isca Silurum. Here the Roman prætor resided, and had his Palatium, which, in all probability, was where the old mansion called the lodge now stands. Here also the courts were held for Britannia Secunda, and the imperial edicts were promulgated. Mr. Cox, the tourist, endeavoured to take a survey of the ancient city, which appeared to him to be oblong, inclining to a square, enclosing a circumference of 1800 yards, but the Roman city must have had extensive suburbs.

Giraldus Cambrensis visited Caerleon, in making the tour of Wales with archbishop Baldwin, in the year 1180. At that time it was hastening to decay; but to the learned arch-deacon it continued to display evident marks of former magnificence. He speaks of 'its splendid palaces, which once emulated with their gilded roofs the grandeur of Rome, for it was originally built by the Roman princes, and adorned with stately edifices; a gigantic tower, numerous baths, ruins of a temple, and a theatre, the walls of which are partly standing. Here we still see,' he adds, 'both within and without the walls, subterraneous buildings, aqueducts and vaulted caverns, and stoves so excellently contrived, as to convey their heat through secret and imperceptible pores.' Of its Christian antiquities he says, 'Here lie two illustrious, and next to Alban and Amphibalus, the two most celebrated proto-martyrs of Britain, Julius and Aaron, of whom both had a church within the city, dedicated to their memory; for, in former ages, it contained three fine churches: the first was that of Julius, adorned with a convent of Franciscan friars,

devoted to the virgin deity; the second, that of his holy associate Aaron, and illustrious for its order of regular canons; the third was at one time the metropolitan church of all Cambria.' Part of an ancient castle is still remaining; it appears to have been 300 yards in circumference; and from the eminence on which it was situated, commanded one of the most beautiful and extensive views in England. There is an amphitheatre on the banks of the Usk, of an oval concavity, measuring seventy-four yards by sixty-four, and six in depth: the natives call it king Arthur's round table. The present church, a good specimen of the Norman era, is kept in good repair by the testamentary benefaction of the late Charles Williams, Esq. a native of the place. He also founded a charity-school for thirty boys and twenty girls. The town now consists only of two or three small streets. In the vicinity are extensive iron and tin works. The market is on Thursday, and well supplied. There is also a smaller market on Saturday.

CERULATA, in entomology, a species of phalæna geometra, the wings of which are banded with two cæruleous bands.

CERULEA, sky blue, the specific name of a chrysomela, pinelia cicindelia, and neeydalis, so called from their shining blue color.

CERULEA, in ichthyology, a species of coryphæna, found in the American Ocean.

CERULEA, in ornithology, an American species of ardea; the blue heron of Latham; the blue bittern of Catesby. The color of the body is blue, whence its name. Also, an Indian species of alcedo; the ispada indica torquata of Brisson; and the white collared king's fisher of Latham. Also, a species of procellaria; the blue petrel of Latham. Also, a fine species of certhia or creeper, from Cayenne. Also, a South American columba; the tlacapoilotl of Ray; and blue pigeon of Latham. And, lastly, a species of muscipala, or fly-catcher, found in the Philippine isles. This is the azure fly-catcher of Latham.

CERULEOCEPHALIA, in entomology, a species of cantharis with a red thorax, fuscous wing cases, and the posterior part of the head blue black. Also, a species of bombyx, commonly called the figure of eight moth.

CERULEOCEPHALA, in ornithology, a species of alcedo. Buffon calls it martin-pêcheur à tete bleue, and petit-martin-pêcheur du Senegal; and it is the blue-headed king's fisher of Latham.

CERULEOCEPHALUS, in entomology, a species of curculio, of a violet color, with testaceous thorax and elytræ. Found in Germany.

CERULEOCEPHALUS, in ornithology, a species of psittacus; the red and blue parrot of Wiloughby and Latham. Found in Guiana and Cayenne.

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